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No. _____

In The

Supreme Court of the United States

JOSE CARRILLO,

Petitioner,

v.

ACF INDUSTRIES, INC.,

Respondent.

On Petition For A Writ Of Certiorari To The Supreme Court Of The State Of California

APPENDIX TO THE PETITION FOR A WRIT OF CERTIORARI

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APPENDIX A

IN THE SUPREME COURT OF CALIFORNIA

JOSE CARRILLO, Plaintiff and Respondent, v. ACF INDUSTRIES, INC., Defendant and Appellant.	S072065 Ct. App. 2/2 B102937 Los Angeles County Super. Ct. No. BC083711 (Filed Jul. 27, 1999)

Under the supremacy clause of the United States Constitution (art. I, § 8), do federal statutes specifying safety equipment on railroad freight cars preempt a state common law claim for tort damages based on allegedly defective design with respect to such equipment? The Court of Appeal determined federal law did not displace the state action. We conclude otherwise. As interpreted by the United States Supreme Court, the statutes and their implementing regulations reflect a congressional intent to occupy the field regulating railroad safety appliances, thus precluding any state law directed to the same matter, including common law tort claims predicated on design defects. Accordingly, we reverse the Court of Appeal.

Facts

On June 30, 1992, plaintiff Jose Carrillo (plaintiff) was driving a truck for his employer, Amoco Chemical Company. He delivered a truckload of polystyrene pellets to a hopper car – a type of boxcar equipped with roof hatches and funnel-like internal compartments in which small pieces of material can be stored and unloaded through a hinged door in the floor – owned by Wincup Holdings, Inc. The pellets were transferred from the truck to the roof hatches of the railcar by pumping them through a heavy steel hose. On the preceding day and for much of that day, Wincup employees did the actual work of transferring the pellets, using a rope to secure the steel hose to one of the car's roof hatches. Plaintiff operated the pump from his truck below.

Around noon, Wincup's employees told plaintiff they were leaving for lunch and would be back in about 30 minutes. They had not returned after half an hour, at which point he noticed pellets overflowing from the top of the railcar. He turned off the truck's pump motor and waited another 20 minutes. When Wincup's workers still had not returned, plaintiff decided to reposition the steel hose himself. Climbing a ladder to the top of the 15-and-a-half-foot-high car, he untied the rope from the hatch and began to pull the steel hose from the car's interior. As he did so, the rope securing the hose came free, allowing the hose to hit him. Plaintiff spun backward and off the top of the car, struck a concrete wall alongside the track with both hands before hitting the ground, and sustained extensive wrist, leg and heel injuries.

Plaintiff filed this personal injury suit for tort damages against the railcar manufacturer, ACF Industries, Inc. (defendant), based on strict product liability theories of design defect and failure to warn. He asserted the top walkways on either side of the car's roof hatches were unsafe because they were not equipped with either a three-and-a-half-foot-high railing or a lower railing to which a lanyard and safety harness could be attached to secure a worker atop the car against falls. Neither the federal Safety Appliance Acts (collectively the SAA; see 49 U.S.C. § 20301 et seq.) nor its regulations (see 49 C.F.R. § 231 et seq. (1997)) require these features. Nor does the Federal Railroad Safety Act (FRSA; see 49 U.S.C. § 20101 et seq.).

Following trial, a jury awarded plaintiff $1.4 million in damages. Defendant sought a judgment notwithstanding the verdict on the ground state tort remedies were preempted by the SAA and the FRSA. The trial court denied the motion. The Court of Appeal affirmed the judgment, holding that federal law did not preempt plaintiff's action because neither statute specifically addressed the subject of guardrails on hopper cars.

We granted defendant's petition for review and for the reasons that follow now reverse.

Discussion

Federal preemption "fundamentally is a question of congressional intent. . . . " (*English v. General Electric Co.* (1990) 496 U.S. 72, 78-79.) "Pre-emption occurs when Congress, in enacting a federal statute, expresses a clear intent to pre-empt state law, [citation], when there is

outright or actual conflict between federal and state law, [citation], where compliance with both federal and state law is in effect physically impossible, [citation], where there is implicit in federal law a barrier to state regulation, [citation], where Congress has legislated comprehensively, thus occupying an entire field of regulation and leaving no room for the States to supplement federal law, [citation], or where the state law stands as an obstacle to the accomplishment and execution of the full objectives of Congress. [Citation.]" (*Louisiana Public Service Comm'n v. FCC* (1986) 476 U.S. 355, 368-369.) In whichever circumstance the question arises, "we 'start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.' [Citations.]" (*Medtronic, Inc. v. Lohr* (1996) 518 U.S. 470, 485 (*Medtronic*).) These principles apply with equal force whether the state law takes the form of a legislative enactment or an award of damages through private suit. (*San Diego Building Trades Council, etc. v. Garmon* (1959) 359 U.S. 236, 247; *Texas & Pacific Ry. Co. v. Rigsby* (1916) 241 U.S. 33, 41-42; see *Cipollone v. Liggett Group, Inc.* (1992) 505 U.S. 504, 521.)

The SAA, now set forth at 49 United States Code section 20301 et seq., constitutes a series of measures enacted between 1893 and 1910 intended to standardize regulations relating to rail-freight-car safety devices for the benefit of workers and passengers. (See, e.g., *Illinois Central R. Co. v. Williams* (1917) 242 U.S. 462, 466-467.) As early as 1915, the United States Supreme Court spoke to its preemptive effect. While as a general rule state and federal sovereignties may exercise concurrent jurisdiction

and each penalize the same act, that principle "has no application where one of the governments has exclusive jurisdiction of the subject-matter, and therefore the exclusive power to punish. Such is the case here where Congress, in the exercise of its power to regulate interstate commerce, has legislated as to the appliances with which certain instrumentalities of that commerce must be furnished in order to secure the safety of employe[e]s. Until Congress entered this field, the States could legislate as to equipment in such manner as to incidentally affect without burdening interstate commerce. . . . Congress of course could have 'circumscribed its regulations' so as to occupy a limited field. [Citations.] But so far as it did legislate, the exclusive effect of the Safety Appliance Act did not relate merely to details of the statute and the penalties it imposed, but extended to the whole subject of equipping cars with appliances intended for the protection of employe[e]s." (*Southern Ry. Co. v. R.R. Comm., Indiana* (1915) 236 U.S. 439, 446 (*Southern*).) In sum, "it is sufficient here to say that Congress has so far occupied the field of legislation relating to the equipment of [rail] freight cars with safety appliances as to supersede existing and prevent further legislation on that subject." (*Id.* at p. 447.)

Shortly thereafter, the high court cited *Southern* in reiterating that "the United States has exercised its exclusive powers over interstate commerce so far as to take possession of the field [of rail safety appliances], [and thus] the States no more can supplement its requirements than they can annul them. [Citations.]" (*Penna. R. R. Co. v. Pub. Service Comm.* (1919) 250 U.S. 566, 569 (*Penna. R. R.*).)

"So far as the safety equipment of [rail] vehicles is concerned, these Acts operate to exclude state regulation whether consistent, complementary, additional, or otherwise. [Citations.]" (*Gilvary v. Cuyahoga Valley Ry.* (1934) 292 U.S. 57, 60-61 (*Gilvary*); see also *Davis v. Manry* (1925) 266 U.S. 401, 404-405.) As Justice Holmes succinctly explained, "The subject-matter in this instance is peculiarly one that calls for uniform law. . . . " (*Penna. R. R., supra*, 250 U.S. at p. 569; cf. *Transportation Union v. Long Island R. Co.* (1982) 455 U.S. 678, 687-688, fns. omitted ["Railroads have been subject to comprehensive federal regulation for nearly a century. . . . There is no comparable history of longstanding state regulation . . . of the railroad industry."].)

That insight is as true now as it was in the glory days of rail a century ago. In our modern rail system, individual freight cars are treated interchangeably as "free runners," traveling on continent-wide routes and multiple roads in an interstate system that knows no boundaries. "The country's railroads long ago abandoned the custom of shifting freight between the cars of connecting roads, and adopted the practice of shipping the same loaded car over connecting lines to its ultimate destination. The freight cars of the Nation thus became in essence a single common pool, used by all roads." (*United States v. Allegheny-Ludlum Steel* (1972) 406 U.S. 742, 743; *Southern Pacific Transp. Co. v. I.C.C.* (D.C. Cir. 1995) 69 F.3d 583, 585.) Standardization of safety devices is thus vital, and employees depend upon the certainty that at all times and in all weather conditions they "will find them in like place and of like size and usefulness on all cars, from whatever line of railway or section of the country they

may come." (*Illinois Central R.R. Co. v. Williams, supra,* 242 U.S. at p. 467; see also *Penna. R. R., supra,* 250 U.S. at p. 569; cf. 49 U.S.C. § 20302(b) [railroad carrier may refuse to receive vehicle from connecting carrier that does not comply with SAA].) Permitting state tort claims "would generate precisely those inconsistencies in railroad safety standards that Congressional action was intended to avoid." (*Ouellette v. Union Tank Car Co.* (D.Mass. 1995) 902 F.Supp. 5, 10.)

Although the SAA does not expressly define "safety appliances," the determination whether a particular piece of equipment comes within its purview is a question of law. (See *Shields v. Atlantic Coast Line Railroad Co.* (1956) 350 U.S. 318, 322-325 (*Shields*); *Hercules, Inc. v. Eilers* (Tex. 1970) 458 S.W.2d 221, 228-229.) "[A]s a practical matter, the central function of every device identified in the Act is safety: hand holds, running boards, hand brakes, automatic couplers, [and ladders]." (*Jordan v. Southern Ry. Co.* (4th Cir. 1992) 970 F.2d 1350, 1354 (*Jordan*); see 49 U.S.C. § 20302(a)(1); see also 49 C.F.R. § 231 et seq.) Since Congress "has so far occupied the field" (*Southern, supra,* 236 U.S. at p. 447), "the categories of safety appliances created by [the SAA] . . . should be broadly read to include every device falling within that category, even if the Secretary of Transportation has not seen fit to standardize a particular type or use of that device." (*Jordan, supra,* 970 F.2d at p. 1354.)

On this point, we find the analysis in *Shields, supra,* 350 U.S. [3]18, instructive. There, the plaintiff sustained injuries when a platform board attached to the dome of a tank car broke; the question was "whether this device, which for convenience we shall call a dome running

board, is a safety appliance within the meaning" of the SAA. (*Shields, supra*, 350 U.S. at p. 319.) Although regulations promulgated by the Interstate Commerce Commission did specify "in detail for one running board running around the perimeter, or at least the full length of the sides, of tank cars," neither the SAA nor the regulations made mention of "dome running boards." (*Id.* at pp. 320-321, fn. omitted.) The Supreme Court did not find this conclusive. "[T]here is no showing that the regulations purport to exhaust by implication each category of statutory appliances listed in [the SAA]. Omission of dome running boards of itself shows no more than that the Commission has not standardized all possible running boards within the [SAA]." (*Id.* at p. 322.) Instead, the court took a pragmatic approach and found that dome running boards served the same purpose and function as the running boards standardized in the regulations and that railroad employees considered them as such. (*Id.* at p. 321.) Given this parity, the court concluded they came within the meaning of "running boards" as used in the SAA. (*Ibid.*)

Here, plaintiff asserts defendant should have incorporated a guardrail in the design of its hopper car. Applying the analysis in *Shields*, such equipment plainly comes within the SAA. (Cf. *Silkwood v. Kerr-McGee Corp.* (1984) 464 U.S. 238, 250-255 (*Silkwood*) [field of nuclear safety regulation does not include remedies for violations, therefore state law actions not preempted].) Like handholds and grab holds, and even running boards and sill steps, guardrails allow a worker to maintain stable and secure footing while performing tasks on the railcar.

Current regulations support this view. Although guardrails are not specified for hopper cars (see 49 C.F.R. §§ 231.1, 231.27, 231.28), they are required on tank cars. (49 C.F.R. §§ 231.7(f), 231.8(h).) For tank cars with side platforms, they are an alternative to tank-head handholds. (49 C.F.R. § 231.7(e)(1).) Accordingly, we concluded the SAA precludes state regulation of guardrails on rail freight cars "whether consistent, complementary, additional, or otherwise" (*Gilvary, supra,* 292 U.S. at pp. 60-61) and thus preempts plaintiff's cause of action. (*Southern, supra,* 236 U.S. at p. 447.)[1]

Plaintiff makes several arguments against this conclusion, none of which are persuasive. Citing language in *Atlantic Line v. Georgia* (1914) 234 U.S. 280 (*Atlantic*), he argues that *Southern, supra,* 236 U.S. 439, should be read narrowly to preempt only regulation of safety appliances expressly required by the SAA. *Atlantic* involved a state law prescribing a certain type of headlight for locomotives. To avoid this requirement, the defendant railroad invoked the SAA. Although the SAA regulated sill steps, hand brakes, ladders, running boards, and handholds, the Supreme Court found that "none of these acts provides regulations for locomotive headlights." (*Atlantic, supra,* 234 U.S. at p. 293.) It thus determined Congress had not intended "to supersede the exercise of the state's

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[1] This conclusion extends to plaintiff's failure-to-warn claim as well. "As for warning requirements, these too are within the scope of the Secretary [of Transportation's] authority – an authority which the Secretary has often invoked. [Citations.]" (*Law v. General Motors Corp.* (9th Cir. 1997) 114 F.3d 908, 911.)

police power with respect to this subject. . . . " (*Id.* at p. 294.)

We are unconvinced Atlantic controls our interpretation of *Southern*. First, it would appear locomotive headlights could not reasonably be classified with any of the safety appliances enumerated in the SAA. (See *Southern, supra,* 236 U.S. at p. 446 [citing *Atlantic* as a case in which Congress has occupied a "limited field"].) Neither the statute nor the regulations referred to lights of any type or any comparable equipment. By contrast, guardrails are plainly safety appliances by virtue of both their function and the regulatory agency's designation. Moreover, the Supreme Court in *Southern* chose to speak expansively and categorically regarding congressional intent to occupy the field: " '[T]he legislation of Congress, in what it does prescribe, manifestly indicates that it does not intend that there shall be any farther legislation to act upon the subject-matter. Its silence as to what it does not do, is as expressive of what its intention is as the direct provisions made by it . . . the will of Congress upon the whole subject is as clearly established by what it had not declared, as by what it has expressed.' " (*Southern, supra,* 236 U.S. at p. 447.) Plaintiff's contrary theory that the SAA preempts only the limited class of devices expressly enumerated conflates field preemption with conflict preemption. (See *id.* at p. 448.)

In a similar vein, plaintiff contends that in *Terminal Railroad Assn. of St. Louis v. Brotherhood of Railroad Trainmen* (1943) 318 U.S. 1, 4-5 (*Terminal*), the Supreme Court clarified it intended a narrow holding in *Penna. R. R., supra,* 250 U.S. 566. In *Terminal,* state law required the

provision of caboose cars for railroad employees performing terminal services. As in *Atlantic*, this did not involve a matter addressed either by Congress or the Interstate Commerce Commission. (*Terminal, supra*, 318 U.S. at p. 4; see also *Atlantic, supra*, 234 U.S. at pp. 293-294.) In other words, it did not implicate regulation of any safety appliance.

Plaintiff also cites *Napier v. Atlantic Coast Line Railroad Co.* (1926) 272 U.S. 605 (*Napier*). In that case, state laws prohibited use of locomotives not equipped with automatic doors to fireboxes to protect railroad firemen from exposure to extremes of heat and cold and cab curtains to shield engineers and firemen against winter weather. The Supreme Court found the requirements preempted under the Boiler Inspection Act, which "extends to the design, the construction, and the material of every part of the locomotive and tender and of all appurtenances." (*Id.* at p. 611; see 49 U.S.C. § 20701 et seq.) In passing, the court found no preemption under the SAA, "since its requirements are specific." (*Ibid.*) Plaintiff would read this observation out of context. The court made the statement in reference to the question, "Does the legislation of Congress manifest the intention to occupy the entire field of regulating locomotive equipment?" (*Ibid.*) The regulations at that time required that interstate locomotives be equipped with a variety of devices. (See *id.* at pp. 608-609 & fn. 1; but see 49 U.S.C. § 20302(a)(4) [current version of SAA addresses only locomotive brakes].) None, however, concerned any equipment relating to the working conditions of engineers or firemen. This distinction in coverage – reflecting congressional intent – would account for the court's conclusion the SAA did not preempt state law.

(See also *Atlantic, supra,* 234 U.S. at pp. 293-294.) Plaintiff's unduly narrow reading also disregards the teachings of *Southern, Penna. R. R.,* and *Gilvary.*

Plaintiff notes that in *Rucker v. Norfolk & Western Railway Co.* (1979) 77 Ill.2d 434 [396 N.E.2d 534], involving a defective design tort action for failure to equip a railroad tank car with a protective "headshield," the Illinois Supreme Court found "no indication in the Federal regulations that the preemption of State tort law was intended [despite the presence of Federal regulations on the subject]." (*Id.* at p. 440.) We are unpersuaded by this conclusory preemption analysis. (See *Ouellette v. Union Tank Car Co., supra,* 902 F.Supp. at p. 11.) In our view, the *Rucker* court failed to account for the guiding principles articulated in *Southern* and *Penna. R. R.*[2]

Nor does *Silkwood, supra,* 464 U.S. 238, or *Medtronic, supra,* 518 U.S. 470, assist plaintiff's position. He argues these decisions "demonstrate [ ] the anti-preemption stance taken by the Supreme Court in recent years." In actuality, and consistent with our interpretation of the SAA, they simply illustrate the proper application of three interrelated principles of the preemption doctrine:

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[2] Other decisions plaintiff relies on are distinguishable: In each instance, the court found that the equipment in question did not come within any of the categories of devices set forth in the SAA. (See *Moses v. Union Pacific Railroad* (8th Cir. 1995) 64 F.3d 413, 418 [pull plate]; *Jordan, supra,* 970 F.2d at p. 1354 [door and ratchet mechanism]; *Hercules, Inc. v. Eilers, supra,* 458 S.W.2d at p. 299 [dome lid].) In both *Jordan* and *Hercules,* the courts reached their conclusions applying the analysis in *Shields, supra,* 350 U.S. 318. (*Jordan, supra,* 970 F.2d at pp. 1353-1354; *Hercules, Inc. v. Eilers, supra,* 458 S.W.2d at pp. 228-299.)

that courts "start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear manifest purpose of Congress" (*Rice v. Santa Fe Elevator Corp.* (1947) 331 U.S. 218, 230); that preemption "fundamentally is a question of congressional intent" (*English v. General Electric Co., supra,* 496 U.S. at pp. 78-79); that "whether Congress and its commissions acting under it have so far exercised the exclusive jurisdiction that belongs to it as to exclude the State, must be answered by a judgment upon the particular case." (*Penna. R. R., supra,* 250 U.S. at p. 569.)

In *Medtronic,* the high court confronted an express preemption provision contained in the Medical Device Amendments of 1976 (MDA), which the defendant contended preempted a state common law negligence action for manufacturing an allegedly defective medical device. The court first rejected the argument the statute precluded all common law claims. "If Congress intended such a result, its failure even to hint at it is spectacularly odd, particularly since Members of both Houses were acutely aware of ongoing product liability litigation." (*Medtronic, supra,* 518 U.S. at p. 491, fn. omitted.) With respect to the plaintiffs' specific claims, the court also found no preemption under the MDA or its implementing regulations. "Unlike the statute construed in *Cipollone,* for instance, pre-emption under the MDA does not arise directly as a result of the enactment of the statute; rather, in most cases a state law will be pre-empted only to the extent that the [federal Food and Drug Administration] has promulgated a relevant federal 'requirement.' " (*Id.* at p. 496.) No such "requirement" applied to the

device in question; therefore, the state action was permitted. (*Id.* at pp. 496-497.)

Here, we have a case of field preemption, which by definition means congressional intent generally extends beyond the express terms of the statute and regulations to all aspects coming within their contemplation. (*Southern, supra,* 236 U.S. at pp. 446-447.) Like the other devices itemized in the SAA, guardrails are safety appliances, which the designated regulatory authority has prescribed for some railcars and not for others. This determination leaves no place for state common law actions, "consistent, complementary, additional, or otherwise." (*Gilvary, supra,* 292 U.S. at p. 61.)

In *Silkwood,* the heir of a nuclear laboratory worker brought state law tort claims for strict liability and negligence based on the decedent's excessive exposure to plutonium. The jury verdict in favor of the plaintiff included an award of punitive damages, which the defendant contended was precluded under the Atomic Energy Act. After a careful examination of the statutory and regulatory scheme, the Supreme Court found a contrary congressional intent. (*Silkwood, supra,* 464 U.S. at pp. 250-255.) By subsequent enactment of the Price-Anderson Act, Congress "assumed that persons injured by nuclear accidents were free to utilize existing state tort law remedies." Considering the historical record, "[t]his was true even though Congress was fully aware of the [Nuclear Regulatory] Commission's exclusive . . . authority over safety matters." (*Id.* at pp. 252-253.) Thus, while federal law controlled the formulation of nuclear

safety standards (see *id.* at pp. 250-251), state law compensation remained available in the event of radiation accidents. (*Id.* at pp. 251-252.)

In contrast, the SAA contains no evidence Congress assumed or intended state remedies for design defects would be preserved. Given the goal of national uniformity, allowing such claims would substantially impair its function. As Judge Kozinski expounded in *Law v. General Motors Corp., supra,* 114 F.3d at pages 910-911: "Apart from compensating victims of accidents for their injuries, the purpose of tort liability is to induce defendants to conform their conduct to a standard of care established by the state. [Citation.] A railroad equipment manufacturer found to have negligently designed a braking system, for example, is expected to modify that system to reduce the risk of injury. If the manufacturer fails to mend its ways, its negligence may be adjudged willful in the next case, prompting a substantial punitive damages award. If each state were to adopt different liability-triggering standards, manufacturers would have to sell locomotives and cars whose equipment could be changed as they cross state lines, or adhere to the standard set by the most stringent state. Either way, Congress's goal of uniform, federal railroad regulation would be undermined. [Citation.]" (Cf. *Gade v. National Solid Wastes Management Assn.* (1992) 505 U.S. 88, 103 [" 'A state law also is pre-empted if it interferes with the methods by which the federal statute was designed to reach th[at] goal.' [Citation.]"].)

This observation suggests an additional concern considering the national dimension of rail transportation. Should safety requirements imposed by individual states

conflict, they could create an unconstitutional burden on interstate commerce. (See, e.g., *Bibb v. Navajo Freight Lines* (1959) 359 U.S. 520; *Southern Pacific Co. v. Arizona* ex rel. *Sullivan* (1945) 325 U.S. 761.) "A State which insists on a design out of line with the requirements of almost all the other States may sometimes place a great burden of delay and inconvenience on those interstate [transporters] entering or crossing its territory." (*Bibb v. Navajo Freight Lines, supra,* 359 U.S. at pp. 529-530.) Absent uniform federal standards for safety appliances, such potential is inherent in the "free runner" system by which freight cars are readily interchanged throughout the country.[3]

Conclusion

"The principle to be derived from our decisions is that federal regulation of a field of commerce should not be deemed preemptive of state regulatory power in the absence of persuasive reasons – either that the nature of

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[3] The Court of Appeal also held plaintiff's common law tort judgment was not preempted by the FRSA. The House Report accompanying the bill that became the FRSA noted that "over the years there have been several enactments . . . dealing with certain phases of railroad safety," including the "Safety Appliance Act, Signal Inspection Act, Ash Pan Act, Locomotive Inspection Act, Accidents Report Act, and the Hours of Service Act." (2 U.S. Code Cong. & Admin. News, (1970) p. 4105.) "These laws have served well," the report concluded; "[i]n fact the Committee chose to continue them without change." (*Ibid.*) Because Congress continued the SAA intact and unmodified within its historic regulatory area, our conclusion as to its preemptive effect is not affected by passage of the FRSA. Since the SAA preempts plaintiff's tort claim, we have no occasion to consider whether the FRSA does also.

the regulated subject matter permits no other conclusion, or . . . Congress has unmistakably so ordained." (*Florida Avocado Growers v. Paul* (1963) 373 U.S. 132, 142.) Because the SAA "touch[es] a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject" (*Rice v. Santa Fe Elevator Corp., supra,* 331 U.S. at p. 230), we find both of these grounds present in this case, where plaintiff's cause of action is based upon an alleged defective design of a railcar for failure to include a safety appliance not prescribed by the statute or its implementing regulations.[4]

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[4] Our holding applies only to the narrow facts before us; we do not determine the SAA's preemptive effect with respect to any other types of action. We note that under the Federal Employers' Liability Act of 1908 (45 U.S.C. § 51 et seq.) an injured railroad employee may bring a cause of action without proof of negligence based on failure of the SAA-mandated safety appliances to function. (See *Crane v. Cedar Rapids & I. C. R. Co.* (1969) 395 U.S. 164, 166; cf. *Atchison, T. & S.F. Ry. v. Scarlett* (1937) 300 U.S. 471, 474 [strict liability applies only when injurious safety appliance is clearly within SAA].) When such strict liability does not apply, i.e., the injury does not result from defective equipment covered by the SAA, the employee must establish common law negligence. (See *Jordan v. Southern Ry. Co., supra,* 970 F.2d at p. 1354.) The Supreme Court has also recognized that the SAA imposes a duty on railroads extending to nonemployee travelers at railway/highway crossings (see *Fairport R. Co. v. Meredith* (1934) 292 U.S. 589, 597), who must bring a common law tort action in state court (absent diversity) and must prove negligence. (*Crane v. Cedar Rapids & I. C. R. Co., supra,* 395 U.S. at p. 166.)

DISPOSITION

The judgment of the Court of Appeal is reversed and the matter remanded for further proceedings consistent with this opinion.

BROWN, J.

WE CONCUR:

GEORGE, C.J.
KENNARD, J.
BAXTER, J.
WERDEGAR, J.
CHIN, J.

COPY

JOSE CARRILLO v. ACF INDUSTRIES, INC.

S072065

DISSENTING OPINION BY MOSK, J.

I dissent.

I disagree that Jose Carrillo's claims for injuries sustained when he fell from the top of a hopper car unequipped with guardrails were preempted by the Safety Appliance Acts (hereafter SAA), 49 United States Code sections 20301-20306 or the Federal Railroad Safety Act (hereafter FRSA), 49 United States Code sections 20101 et seq. The regulations under the SAA make no mention of the particular safety appliances at issue here – protective guardrails on the top of hopper cars – that

would have prevented Carrillo's fall. Nor do the regulations under the FRSA. As the Court of Appeal correctly held, where the federal regulations are silent concerning the use of particular safety devices, there is no preemption of state common law claims.

The majority conclude that Congress intended to so occupy the field of railway "safety appliances" as to preempt all state common law tort claims for damages. Not so. Since the SAA was enacted, between 1883 and 1910, *no United States Supreme Court or lower federal court decision in point has ever so held*: in each case where the SAA was found to preempt state law, it was because the particular safety device at issue was specifically enumerated in federal regulations. With regard to the FRSA, Congress expressly protected the right of states to regulate railroad safety as to matters not covered by federal regulation.

Ignoring the strong presumption against preemption of state law, the majority rely on isolated dicta and broad generalities – what they call "guiding principles" – about the "vital" need for national standards in this area. In my view, the better "guiding principles" in this area support the conclusion that when the SAA has *not* spoken, *safety* comes first.

I

The factual and procedural background are as follows.

In June 1992, Carrillo, a truck driver for Amoco Chemical Company, was delivering pellets of polystyrene

to Wincup Holdings, Inc. (hereafter Wincup). The pellets were transferred from his truck through a heavy steel hose into the top of a hopper car operated by Wincup. The hopper car was 15 and a half feet high; its top constitutes a work platform and has 2 walkways on each side. It is completely open and has no guardrails.

During the delivery, Carrillo and Wincup employees used a rope to lift the truck's hose to the top of the hopper car, where it was inserted into a hatch. The Wincup employees left the area, saying they would return in 30 minutes, and Carrillo began pumping the delivery into the car. After about 30 minutes, Carrillo noticed that the material was coming out of the top of the car. Unable to locate any Wincup employees, he shut off the pump. When they did not return after another 20 minutes, he climbed to the top of the hopper car to adjust the hose. He stood over the hatch and bent over to untie the rope that was attached to the hatch and hose. As he lifted the hose, it began sliding down the side of the car. The rope came free from the hose and Carrillo fell backwards off the top of the car. He hit the wall of a building with both hands and then fell to the ground. He sustained serious injuries to his wrist, leg, and heel, requiring extensive surgeries.

Carrillo sued Wincup for negligence and ACF Industries, Inc. (hereafter ACF Industries) for negligence, breach of warranty, and products liability. Wincup settled. During trial, Carrillo dismissed all causes of action except for those based on products liability, including design defect and failure to warn. He contended that the hopper car should have been equipped either with a 42-inch guardrail, retractable or stationary, or with a lower

railing to which a lanyard and safety harness could be attached. He also claimed that the design for harnessing should have been accompanied by a sign warning workers not to work on top of the car without such "fall protection."

The jury, by special verdict, found that there had been both design defect and a failure to warn and awarded economic and noneconomic damages. After adjustments based on the jury's assessment of comparative fault, the total judgment against ACF Industries was $1,429,274.13.

ACF Industries appealed on the ground, inter alia, that the common law tort claims were preempted by federal laws regulating railroad safety. The Court of Appeal affirmed. It concluded that Congress did not act to broadly preempt the field of "safety appliances"; the SAA and FRSA bar common law relief only with respect to the equipment they have specifically enumerated. Because there is no provision in the SAA or FRSA regulating the use of guardrails on hopper cars, there is no preemption of Carrillo's claims.

We granted review. I would now affirm.

II

In *Cipollone v. Liggett Group, Inc.* (1992) 505 U.S. 504, The United States Supreme Court summarized the law of preemption as follows.

"Article VI of the Constitution provides that the laws of the United States 'shall be the supreme Law of the Land; . . . any Thing in the Constitution or Laws of any

state to the Contrary notwithstanding.' [U.S. Const., art. VI, cl. 2.] Thus, since our decision in *McCulloch v. Maryland* [(1819) 17 U.S. (4 Wheat.) 316, 427], it has been settled that state law that conflicts with federal law is 'without effect.' [Citation.] Consideration of issues arising under the Supremacy Clause 'start[s] with the assumption that the historic police powers of the States [are] not to be superseded by . . . Federal Act unless that [is] the clear and manifest purpose of Congress.' [Citation.] Accordingly, ' "[t]he purpose of Congress is the ultimate touchstone' " of pre-emption analysis. [Citation.]

"Congress' intent may be 'explicitly stated in the statute's language or implicitly contained in its structure and purpose.' [Citation.] In the absence of an express congressional command, state law is pre-empted if that law actually conflicts with federal law, [citation], or if federal law so thoroughly occupies a legislative field ' "as to make reasonable the inference that Congress left no room for the States to supplement it." ' " (*Cipollone v. Liggett Group, Inc., supra,* 505 U.S. at p. 516.)

In *CSX Transp. Corp. v. Easterwood* (1993) 507 U.S. 658, 668, a case involving preemption of common law tort claims involving railroad safety, the United States Supreme Court referred to the "presumption *against* pre-emption." (Italics added.) "In the interest of avoiding unintended encroachment on the authority of the States . . . a court interpreting a federal statute pertaining to a subject traditionally governed by state law will be reluctant to find pre-emption." (*Id.* at pp. 663-664.) The federal law must do more than " 'touch upon' " or " 'relate to' " the subject matter of relevant state law;

preemption will lie only if the federal regulations "substantially subsume" that subject matter (*Id.* at p. 664.) The court also specifically rejected the argument, echoed here, that the " 'hit-or-miss common law method' " of enforcing state common law standards, runs counter to the federal laws, observing that "the scheme of negligence liability could just as easily complement [the] regulations." (*Id.* at p. 668.)

ACF Industries contends that the common law tort claims in this matter are preempted by two sets of federal laws concerning railroad safety: the SAA and FRSA. The former contains no express preemption language; ACF Industries argues, however, that it is implied. The latter contains an express preemption provision, section 20106 of title 49 of the United States Code, which provides, in relevant part, that "[a] State may adopt or continue in force a law, regulation, or order related to railroad safety until the Secretary of Transportation prescribes a regulation or issues an order covering the subject matter of the State requirement."[1]

I address the two points in turn.

With regard to the SAA, Carrillo's claim is preempted only if it may fairly be implied either that the SAA was

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[1] In the case of a particular subject matter covered by such federal regulation, "A state may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety when the law, regulation, or order – [¶] (1) is necessary to eliminate or reduce an essential local safety hazard; [¶] (2) is not incompatible with a law, regulation, or order of the United States Government; and [¶] (3) does not unreasonably burden interstate commerce." (49 U.S.C. § 20106.)

intended by Congress to occupy the entire field of railroad safety appliances or, more narrowly, that existing regulations concerning guardrails on hopper cars actually conflict with state law. Neither is the case.

The SAA states specific requirements for the use of particular safety devices on railroad cars. These include secure sill steps and hand brakes, ladders and running boards, roof handholds or grab irons at the top of ladders, side and end handholds or grab irons for security in coupling. (49 U.S.C. § 20302(a)(1), (2).) Nothing on the face of the statutory scheme, which provides for a narrow list of equipment for certain types of railroad cars, indicates that Congress intended to occupy the entire field of safety equipment for railroad cars. Nor does the majority point to any legislative history suggesting a broader purpose.

Review of relevant Supreme Court decisions going back to the beginning of the century confirms that the SAA does not have preemptive effect when the federal law is silent about a particular safety feature.

Atlantic Coast Line v. Georgia (1914) 234 U.S. 280 (*Atlantic*), involved a claim by the plaintiff railroad that a Georgia statute requiring locomotives to be equipped with headlights was preempted by the SAA and other federal provisions. The high court disagreed. Enumerating the specific requirements of the federal provisions, including the SAA and the regulations thereunder, it explained: "[I]t is manifest that none of these acts provides regulations for locomotive headlights. . . . As to these, the situation has not been altered by any exertion of Federal power. . . . The most that can be said is

that . . . Congress has not yet decided to establish regulations, either directly or through its subordinate body, as to the appliance in question. The intent to supersede the exercise of the State's police power with respect to this subject cannot be inferred from the restricted action which thus far has been taken." (*Id.* at pp. 293-294.)

Subsequently, in *Napier v. Atlantic Coast Line* (1926) 272 U.S. 605, the Supreme Court considered the validity of state laws requiring that locomotives be equipped with firebox doors and cab curtains. As in *Atlantic*, the court enumerated the federal requirements under the SAA and other provisions, observing that the regulations under the SAA did not specifically address these appliances. With regard to preemption, it stated, as relevant here: "The intention of Congress to exclude States from exerting their police power must be clearly manifested. [Citations.] Does the legislation of Congress manifest the intention to occupy the entire field of regulating locomotive equipment? *Obviously it did not do so by the Safety Appliance Act, since its requirements are specific.*" (272 U.S. at p. 611; italics added.) *Napier* expressly distinguished the preemptive scope of the then recently amended Boiler Inspection Act (BIA, presently, 42 U.S.C. § 20701 et seq.), concluding that its provisions were intended to occupy the general field of locomotive health and safety appliances. (272 U.S. at p. 613.)

Consistent with *Napier*, the Supreme Court has limited the application of the SAA's strict liability provisions to claims involving specific devices enumerated by its regulations. Thus, in *A. T. & S.F. Ry. v. Scarlett* (1937) 300 U.S. 471, 475, it held that because the injurious design of a brace rod on the side of a railcar was not covered under

the SAA, the plaintiff could recover damages only in an action for common law negligence. In *Jordan v. Southern Ry Co.* (4th Cir. 1992) 970 F.2d 1350, the Fourth Circuit, following *Napier*, explained: " 'Safety appliance' is a popular name given to the statute and the equipment it treats; however, the statute nowhere defines a generic class of 'safety appliances.' Instead, the statute contains a strikingly specific laundry list of equipment a railroad must have on each type of car: ladders, brakes, automatic couplers, hand holds, running boards, etc." (*Id.* at p. 1352; accord, *Moses v. Union Pacific R.R.* (8th Cir. 1995) 64 F.3d 413, 418 ["[T]he FSAAs do not extend to devices not enumerated in [the SAA]."][2]

The majority purport to rely instead on *Penna. R.R. Co. v. Pub. Service Comm.* (1919) 250 U.S. 566 (*Penna.*) to support their conclusion that the SAA is preemptive. Referring to dicta in *Penna.* to the effect that the safety of railroad rolling stock is a subject-matter that "is peculiarly one that calls for uniform law" (250 U.S. at p. 569), they urge that any lesser standard than complete preemption in this area would be unworkable. The actual holding in *Penna.*, however, was far more limited, addressing a direct conflict between state and federal law about particular safety requirements. Specifically, it held that the absence of a rear platform, rails, and steps on a mail car could not be the basis for a state law penalty because federal regulations under the SAA both regulated those

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[2] State courts have similarly held that the SAA preempts state law only when there is a direct conflict. (See, e.g., *Rucker v. Norfolk & W. R. Co.* (1979) 77 Ill.2d 434, 440; *Apache Railway Co. v. Shumway* (1945) 62 Ariz. 359, 370.)

cars and permitted them without such equipment. Nor has the Supreme Court endorsed such a sweeping view of the *Penna*. Thus, in *Terminal Assn. v. Trainmen* (1943) 318 U.S. 1, the Supreme Court held that neither the SAA nor the BIA preempted a state requirement for cabooses in the absence of federal regulations on the subject matter, noting that, if enacted, such regulations would be controlling: "This and no more is the effect of [*Penna.*]." (*Id.* at pp. 4-5.)

The majority also point to dicta in *Southern Ry. Co. v. R.R. Comm., Indiana* (1915) 236 U.S. 439, 447 (*Southern*) to the effect that "Congress has so far occupied the field of legislation relating to the equipment of freight cars with safety appliances as to supersede existing and prevent further legislation on that subject." *Southern*, too, involved the preemptive effect of specific regulations under the SAA concerning grab-irons and handholds. In that context, the language relied upon by the majority, rather than referring to the general class of safety appliances, would appear to refer *only to safety appliances specified by the SAA*. Such a conclusion finds support in the court's previous decision in *Atlantic, supra*, 234 U.S. 280, and confirmed by its subsequent decision in *Napier, supra*, 272 U.S. 605.

Texas & Pacific Ry. Co. v. Rigsby (1916) 241 U.S. 33, cited by appellant, also does not support preemption. *Rigsby* held that a worker injured because of a defective handhold or grab iron had a strict right of recovery under the SAA – which specifically regulated those safety appliances – and that such right could not be limited by state law doctrines such as negligence. This case, too,

offers no support for the majority's conclusion that Congress intended to preempt the broad subject of "safety appliances" in general.

Nor does the existence of regulations concerning guardrails on tank cars necessarily preempt state regulation of guardrails on *all* types of rail freight cars, as the majority incorrectly conclude. Their reliance on *Shields v. Atlantic Coast Line R. Co.* (1956) 350 U.S. 318 for this proposition is misplaced. *Shields* involved an action by an independent contractor for absolute liability against the railroad for injuries caused by a defective running board located on the dome of a tank car. The United States Supreme Court concluded that, for the purposes of such an action, a "dome running board" came within the meaning of the term "running boards" as used in a provision of the SAA requiring "secure running boards" on certain freight cars. (*Id.* at pp. 321-323.) While it is undoubtedly true that guardrails on a hopper car, like guardrails on a tank car, *would* constitute a "safety appliance" – and that any federal regulations concerning their use would be preemptive *if* they existed – the dispositive point for our purposes is that *guardrails are not specified for hopper cars*. There can be no preemption in the absence of any regulation in this area.[3]

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[3] The majority also warn, in dicta, that safety requirements imposed by individual states might create an unconstitutional burden on interstate commerce. No such question was raised here; nor are we called upon to speculate about hypothetical constitutional violations. Moreover, the fact that Congress expressly permits the state regulation of matters relating to railroad safety under the FRSA, so long as it does not unreasonably burden interstate commerce (49 U.S.C. § 20106),

Turning briefly to the FRSA, as discussed, it contains an express preemption provision. (42 U.S.C. § 20106.) As discussed, it provides that states may adopt or continue regulation of matters relating to railroad safety until the Secretary of Transportation "prescribes a regulation or issues an order covering the subject matter of the State requirement." (*Ibid.*)

The Supreme Court has held that "pre-emption [under the FRSA] will lie only if the federal regulations substantially subsume the subject matter of the relevant state law." (*CSX Transp. Corp. v. Easterwood, supra,* 507 U.S. at p. 664.) Carrillo's claim is thus preempted only if the Secretary of Transportation has adopted regulations that "cover[ ] the subject matter" of guardrails and warnings on hopper cars. None of the items required by the federal regulations cover or duplicate the types of safety measures Carrillo alleged were required.

Defendant urges that the existence of regulations concerning safety railings on tank cars (49 C.F.R. §§ 231.7(f), 231.8(h) (1977)) signifies, by negative implication, that there is no such requirement for hopper cars. Not so. The regulations concerning tank cars do not cover fall protection measures concerning hopper cars – a different kind of railroad car. *There are no regulations concerning fall protection on the top of hopper cars.* (See *id.*, §§ 231.2, 231.4, 231.5 [listing safety regulations concerning hopper cars].) Because of the lack of specific provisions covering the safety devices at issue here, there was no preemption:

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strongly undercuts any implication that it will inevitably, or even likely, do so.

the regulations do not address, and therefore cannot "substantially subsume" the subject matter of Carrillo's tort claims.

III

Congress has not expressed, or implied, an intention to preempt the entire undefined field of railroad safety appliances. Carrillo's claims involve particular safety appliances on hopper cars that are not the subject of any federal regulations. The majority's conclusions to the contrary find no support in the SAA, the FRSA, or decisions of the United States Supreme Court. Accordingly, I dissent.

Mosk, J.

APPENDIX B

CERTIFIED FOR PARTIAL PUBLICATION*

IN THE COURT OF APPEAL OF THE
STATE OF CALIFORNIA

SECOND APPELLATE DISTRICT

DIVISION TWO

JOSE CARRILLO, Plaintiff and Respondent, v. ACF INDUSTRIES, INC., Defendant and Appellant.	B102937 (Super. Ct. No. BC083711) (Filed June 11, 1998)

APPEAL from a judgment of the Los Angeles County Superior Court. Judge Alban I. Niles. Affirmed.

Horvitz & Levy, Barry T. Levy, Andrea M. Gauthier, Dwyer, Daly, Brotzen & Bruno, Ronald A. Dwyer, Toni Rae Bruno and Douglas W. Schroeder for Defendant and Appellant.

Fogel, Feldman, Ostrov, Ringler & Klevens, Jerome L. Ringler, Lester G. Ostrov and Toni Martinson for Plaintiff and Respondent.

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* Pursuant to California Rules of Court, rules 976(b) and 976.1, this opinion is certified for publication with the exception of parts 2 and 3 of the Discussion.

Defendant ACF Industries, Inc. (ACF), appeals from an order denying motion for judgment notwithstanding the verdict, and from a judgment on special verdict, awarding plaintiff Jose Carrillo $1,429,274 for personal injuries he sustained when he fell from the top of a railroad hopper car manufactured by defendant. The jury found defendant liable under product liability theories of design defect and failure to warn. Defendant contends it is entitled to reversal and a judgment in its favor, first because the subject matter of plaintiff's claims is pre-empted by federal law, and second, because plaintiff failed as a matter of California law to establish design defect, failure to warn, or causation. Alternatively, defendant seeks reversal and a new trial on grounds of instructional error. We affirm.

FACTS

The accident from which this action arose occurred on June 30, 1992. Plaintiff, a truck driver employed by Amoco Chemical Company, was engaged in delivering polystyrene pellets to a hopper car operated by Wincup Holdings, Inc.[1] Delivery involved transferring the pellets from plaintiff's truck, via a heavy steel hose, through hatches on top of the car, which was 15½ feet high. On the day before and the morning of the accident, the actual loading was conducted by Wincup's employees, who took the hose from plaintiff and inserted it into one of the

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[1] A hopper car is a type of boxcar that contains one or more storage bins from which cargo consisting of small pieces of matter may be unloaded at the bottom, through precipitation.

hatches, securing it with a rope plaintiff furnished. Plaintiff would then turn on the truck's pump.

After plaintiff started the pump for the second delivery of June 30, the Wincup employees told him they were going to lunch and would return in about 30 minutes. They did not return then, and plaintiff noticed that the pellets were overflowing out of the top of the car. He shut off the pump and waited about 20 minutes more, but the employees still did not return. Believing that the product had been filling unevenly and that the hose had to be repositioned, plaintiff decided to attempt to do that himself.

Plaintiff ascended the car and untied the rope from the hatch. Using the rope, he began to pull the heavy hose up. The rope came free of the hose, and plaintiff was spun backwards and off the top of the car. He struck the nearby facility wall with both hands, and then fell to the ground. Plaintiff suffered multiple fractures of his left wrist, left leg, and right heel, necessitating extensive surgeries including bone and skin grafts.

Plaintiff sued Wincup, for negligence, and defendant, for negligence, breach of warranty, and product liability. Wincup settled the case. During trial, plaintiff dismissed all causes of action except those based on product liability. Plaintiff's claim of defective design was that the top of the hopper car should have been equipped either with a 42-inch guard rail, retractable or stationary, or with a lower railing to which a lanyard and safety harness could be attached, permitting a worker to work harnessed. Plaintiff also claimed failure to warn, in that the design for harnessing should have been accompanied

by an illustrated sign, warning workers not to work on top without such "fall protection."[2]

Defendant moved for nonsuit and later for directed verdict, on grounds plaintiff's claims of product defect were preempted by federal laws regulating railroad safety, and also that plaintiff's proof of his claims was insufficient as a matter of law. The trial court denied the motions. By special verdict, the jury found that there had been both a design defect and a failure to warn, that both had contributed to plaintiff's injuries, and that plaintiff's economic and noneconomic damages amounted to $1,279,000 and $1,920,000 respectively. The jury further found comparative fault of 36 percent to defendant, 35 percent to Wincup, 23 percent to plaintiff's employer, and 6 percent to plaintiff himself.

After downward adjustments of the economic damages for plaintiff's fault, a proportion of Wincup's settlement, and workers' compensation benefits received, and with inclusion of defendant's comparative share of the noneconomic damages, the judgment against defendant totalled $1,429,274.13. Defendant's motions for new trial and judgment notwithstanding the verdict were denied.

DISCUSSION

1. *Preemption.*

Defendant's primary contention is that plaintiff's claims of defectiveness of the hopper car were barred

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[2] The harness itself would be provided by the owner or operator of the car.

because preempted by federal legislation. Operative by reason of the supremacy clause (U.S. Const., art. VI, cl. 2), preemption occurs when state law impermissibly conflicts with federal law. Such conflict may arise when federal legislation expressly provides that certain state regulation is prohibited (express preemption); when circumstantial proof of such congressional intent to "occupy the field" appears, from such factors as the nature, subject matter, and pervasiveness of the federal enactment (implied or field preemption); or when there is a direct conflict between state and federal law, such as where compliance with both is impossible (conflict preemption). (*English v. General Electric Co.* (1990) 496 U.S. 72, 78-79; *Louisiana Public Service Comm'n v. FCC* (1986) 476 U.S. 355, 368-369; *Smiley v. Citibank* (1995) 11 Cal.4th 138, 147.) Preemption may displace not only regulatory statutes and regulations but also common law claims and remedies. However, in areas such as health and safety, in which the states have traditionally exercised authority, there is a presumption against such preemption, absent a clear manifestation of congressional purpose. (*Medtronic, Inc. v. Lohr* (1996) 518 U.S. ___, ___ [116 S.Ct. 2240, 2250]; *Smiley, supra,* 11 Cal.4th at p. 148.)

Defendant's preemption claim is based on two correlative sets of federal laws relating to railroad safety. The first is the Safety Appliance Acts (SAA), originally enacted between 1893 and 1910, and presently codified at 49 United States Code sections 20301-20306.[3] The second

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[3] Undesignated section references hereafter are to Title 49 of the United States Code. We refer to the SAA in the singular case.

is the Federal Railroad Safety Act (49 U.S.C. § 20101 et seq.; FRSA), a more comprehensive statute enacted in 1970. The FRSA contains an express preemption provision, and therefore the issue of preemption by the FRSA involves applying that provision. The SAA contains no such express preemption language; defendant's claim under it is essentially one of implied preemption. We begin with the SAA.

The SAA requires that railroad cars generally be equipped with certain specific safety devices, namely automatic couplers, sill steps, hand brakes, ladders and running boards (when administratively required), roof handholds or grab irons at the top of ladders, and side and end handholds or grab irons for security in coupling. (§ 20302(a)(1), (2).) Historically, the details of these items were specified by the Interstate Commerce Commission (ICC); currently the Secretary of Transportation performs that function. On its face, this statutory scheme does not evince an intent to occupy the field of safety equipment or measures for railroad cars; it could well be read only to prescribe certain minimum national standards. Defendant cites no contemporaneous legislative history to the contrary.

Defendant contends, however, that SAA has indeed preempted the field, so that any further "safety appliance" equipment or measures – a term not defined in the statute, except by implication from its specifics – may not be state-mandated, or its absence made a basis for liability. For this proposition, defendant relies on several United States Supreme Court decisions concerning the SAA, rendered in the first third of this century. But these cases do not bear such sweeping significance.

Although the opinions contain language regarding preemption by the SAA, the holdings of the cases establish no more than preemption with respect to the specific types of appliances required and regulated under it. In context, the language on which defendant relies either relates to that subject matter, or is dictum, or both.

In the earliest case, on which defendant places heavy reliance, the Supreme Court held that a state could not superimpose its own requirement of grab irons and handholds, equipment already required by the SAA. (*Southern Ry. Co. v. R.R. Comm., Indiana* (1915) 236 U.S. 439 (*Southern*).)[4] Thereafter in *Texas & Pacific Ry. Co. v. Rigsby* (1916)

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[4] *Southern* contains the most extensive and strongest preemption language, which we quote at length. "But Congress could pass the Safety Appliance Act only because of the fact that the equipment of cars moving on interstate roads was a regulation of interstate commerce. *Under the Constitution the nature of that power is such that when exercised, it is exclusive, and ipso facto, supersedes existing state legislation on the same subject.* Congress of course could have 'circumscribed its regulations' so as to occupy a limited field. [Citation.] But so far as it did legislate, the exclusive effect of the Safety Appliance Act did not relate merely to details of the statute and the penalties it imposed, but extended to the whole subject of equipping cars with appliances intended for the protection of employes. The States thereafter could not legislate so as to require greater or less or different equipment; nor could they punish by imposing greater or less or different penalties. . . . [¶] . . . [I]t is sufficient here to say that Congress has so far occupied the field of legislation relating to the equipment of freight cars with safety appliances as to supersede existing and prevent further legislation on that subject." (*Southern, supra,* at pp. 446-447, italics added.) This passage could as least as well be read as referring to the "safety appliances" specified by the SAA – the subject of the case – as it could (as dictum) be seen to refer to

241 U.S. 33 (*Rigsby*), the court held that a worker injured because of a defective handhold or grab iron had a strict right of recovery therefor by reason of the SAA, which could not be limited by state law doctrines such as negligence. *Penna. R.R. Co. v. Pub. Service Comm.* (1919) 250 U.S. 566 (*Penna.*) held that a state could not penalize, under its own standards, the absence of a rear platform, rails, and steps on a mail car, because the ICC's regulations, promulgated under the SAA, both regulated those cars and permitted them without such equipment. Finally, in *Gilvary v. Cuyahoga Valley Ry.* (1934) 292 U.S. 57 (*Gilvary*), a case involving injury by reason of the absence of automatic couplers specifically required by the SAA, the court held that although a right of recovery existed under *Rigsby, supra,* 241 U.S. 33, the SAA did *not* preempt operation of or resort to state workers' compensation remedies for the injury.

The preemption recognized and applied in the two regulatory cases (*Southern, supra,* 236 U.S. 439, and *Penna., supra,* 250 U.S. 566), thus concerned specific requirements of the SAA or of the regulations implementing it. In the other two cases, the court in one instance declared a right of relief for violation of the specific requirements of the SAA (*Rigsby, supra,* 241 U.S. 33), but in the other it held that "[t]hese Acts do not create, prescribe the measure, or govern the enforcement of, the

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some general, undefined class of appliances, not all of them covered by the statute. Moreover, the italicized portion of the quotation reflects a theory of ipso facto preemption that the court has long since abandoned. (See Tribe, American Constitutional Law (2d ed.1988), § 6-26, p. 491.)

liability arising from the breach." (*Gilvary, supra,* 292 U.S. at pp. 61-62.) In short, these decisions recognized preemption of state regulation of the SAA's specific regulatory subject matter. They did not establish that Congress had preempted some broad and undefined subject of "safety appliances," extending beyond those covered by the SAA, nor did they deny states common law authority to apply tort remedies for railcars defective because lacking safety measures not addressed by the SAA. The opinions' preemption language must be read in this context and light. To the extent that it could be more broadly construed, it is necessarily dictum.

The high court has recognized the specific reach and consequently limited preemption of the SAA in other cases. In *Atlantic Coast Line v. Georgia* (1914) 234 U.S. 280 (*Atlantic*), the court affirmed, against constitutional challenge, a conviction for violating a state law requiring headlights on locomotives. Considering the scope of existing federal railroad safety regulation, the court enumerated, inter alia, the specific requirements of the SAA, as well as the ICC's regulations thereunder. It then stated, "But it is manifest that none of these acts provides regulations for locomotive headlights. . . . As to these, the situation has not been altered by any exertion of Federal power. . . . Congress has not yet decided to establish regulations, either directly or through its subordinate body, as to the appliance in question. The intent to supersede the exercise of the State's police power with respect to this subject cannot be inferred from the restricted

action which thus far has been taken." (*Atlantic, supra,* at pp. 293-294.)[5]

Napier v. Atlantic Coast Line (1926) 272 U.S. 605 (per Brandeis, J.) (*Napier*) is particularly informative. *Napier* involved the validity of state laws requiring firebox doors and cab curtains on locomotives. The court again enumerated the requirements of the SAA, as well as the provisions of the separate federal Boiler Inspection Act (BIA; presently § 20701 et seq.), and noted that neither specifically dealt with these appliances. Turning to the preemption question, the court stated, "The intention of Congress to exclude States from exerting their police power must be clearly manifested. [Citations.] Does the legislation of Congress manifest the intention to occupy the entire field of regulating locomotive equipment? *Obviously it did not do so by the Safety Appliance Act, since its requirements are specific.* It did not do so by the original Boiler Inspection Act, since its provisions were limited to the boiler. [Citation]." (*Napier, supra,* at p. 611, italics added.)

However, the court explained that as recently amended, the BIA "extends to the design, the construction, and the material of every part of the locomotive and tender and of all appurtenances." (*Napier, supra,* 272 U.S.

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[5] *Atlantic's* analysis of the SAA with respect to appliances not covered by it carries significance beyond that case. In *Southern, supra,* 236 U.S. at p. 447 (*ante,* fn. 5), the court cited this very portion of *Atlantic* for the proposition that Congress could act to preempt a limited field. This too indicates that *Southern's* language regarding the preemptive effect of the SAA was addressed to the SAA's prescribed "appliances," rather than some broader, undefined field.

at p. 611.) The state requirements at issue therefore fell within the ICC's delegated regulatory authority under the BIA. Thus, the broad BIA, but not the specific SAA, had occupied a general field which included these locomotive health and safety appliances. (*Napier, supra,* at p. 613.)

Finally, in the more recent case of *Terminal Assn. v. Trainmen* (1943) 318 U.S. 1, the court ruled that neither the SAA nor the BIA preempted a state requirement for cabooses, absent ICC regulations on the subject matter. Stating that such regulations would be controlling if enacted, the court explained that "This and no more is the effect of [*Penna., supra,* 256 U.S. 566]." (*Terminal Assn. v. Trainmen, supra,* at pp. 4-5.) The Supreme Court and lower courts have also limited the SAA's strict liability to the specific devices required by the statute. (E.g., *A.T. & S.F. Ry. v. Scarlett* (1937) 300 U.S. 471; *Jordan v. Southern Ry. Co.* (4th Cir. 1992) 970 F.2d 1350.)[6]

In support of its claim of broader preemption, defendant cites *Law v. General Motors Corp.* (9th Cir. 1997) 114 F.3d 908, a recent decision under the BIA which held that that statute preempted the general field of "locomotive equipment and safety" (*id.* at p. 910) and barred state tort claims for injuries allegedly suffered from locomotive

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[6] As noted in *Jordan,* " 'Safety appliance' is a popular name given to the statute and the equipment it treats; however, the statute nowhere defines a generic class of 'safety appliances.' Instead, the statute contains a strikingly specific laundry list of equipment a railroad must have on each type of car: ladders, brakes, automatic couplers, hand holds, running boards, etc." (*Id.* at p. 1352.)

manufacturing defects. The case does not aid defendant. It involved the effect of the BIA, not the SAA, and indeed the court's holding was directly drawn from *Napier, supra,* 272 U.S. 605, which defined the broad preemption of the BIA and contrasted it with the restricted reach and effect of the SAA. (Cf. *Viad Corp. v. Superior Court* (1997) 55 Cal.App.4th 330 [reaching a different conclusion regarding BIA preemption in light of more recent U.S. Supreme Court decisions].)

In light of the foregoing authorities, we conclude that defendant has failed to sustain its burden of showing that the SAA preempts a field of "safety appliances," beyond those that it requires, and that it therefore bars common law relief on account of the defects advanced by plaintiff. That the thrust of federal preemption in this area is specific is confirmed when one assesses the other federal statute on which defendant relies, the FRSA.

The FRSA was enacted in 1970 to expand federal protection of railroad safety. It granted authority to promulgate regulations to the Secretary of Transportation (secretary), who earlier had succeeded the ICC as the regulatory authority under the SAA. (See § 20103.) As previously noted, the FRSA contains an express preemption provision, section 20106, which generally calls for national uniformity in regulating railroad safety, but allows states to regulate pending the secretary's prescription of regulations "covering the subject matter" (and to some extent thereafter).[7] Construing the quoted

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[7] Section 20106 reads: "Laws, regulations, and orders related to railroad safety shall be nationally uniform to the

language, and reiterating the presumption against pre-emption of subjects traditionally governed by state law, the Supreme Court has held that under section 20106 "pre-emption will lie only if the federal regulations substantially subsume the subject matter of the relevant state law." (*CSX Transp., Inc. v. Easterwood* (1993) 507 U.S. 658, 664.)

Defendant contends that preemption under section 20106 has been accomplished because the secretary has promulgated "safety appliance" regulations applicable to hopper cars. (49 C.F.R. § 231.28, referencing 49 C.F.R. §§ 231.1 and 231.27.)[8] These regulations, however, essentially fix the numbers, types and specifications of the appliances required by the SAA, such as hand brakes, handholds, ladders, and running boards. None of these items duplicates the types of measures on which plaintiff's claim was founded, and it cannot be said that the

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extent practicable. A State may adopt or continue in force a law, regulation, or order related to railroad safety until the Secretary of Transportation prescribes a regulation or issues an order covering the subject matter of the State requirement. A State may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety when the law, regulation, or order – [¶] (1) is necessary to eliminate or reduce an essentially local safety hazard; [¶] (2) is not incompatible with a law, regulation, or order of the United States Government; and [¶] (3) does not unreasonably burden interstate commerce."

[8] The cited regulations concern "box and other house cars." Another regulation, not cited by defendant, specifically addresses hopper cars. (49 C.F.R. § 231.2.) It essentially incorporates the requirements of section 231.1.

regulations necessarily cover or subsume those requirements. Defendant's argument that they do so is once again based on the premise that anything that may be termed a "safety appliance" is so covered. But that argument continues to beg the question. Section 20106 carefully hinges ouster of state regulation on the promulgation of regulations covering the subject matter of the state regulation. Defendant has not shown that the instant regulations cover and subsume equipment or precautions distinct from those they prescribe.

Defendant further urges that preemption is demonstrated by the regulations' coverage of safety railings with respect to another variety of railroad cars, tank cars. (49 C.F.R. §§ 231.7(f), 231.8(h).) Defendant would infer that a prescription for such railings for tank cars, as opposed to hopper cars, signifies that any state requirement of such a device has been ruled out for hopper cars. Not only is this inference speculative as a matter of intent, it does not satisfy to the preemptive trigger of section 20106, that there have been issued a regulation "covering the subject matter of the State requirement." A tank car regulation prescribing safety railings does not cover the subject matter of railings and other fall protection measures for the roofs of hopper cars.

Defendant's reliance on two district court decisions concerning tank cars (*Ouellette v. Union Tank Car* (D.Mass. 1995) 902 F.Supp. 5 and *Roland v. Olin Corp.* (E.D.Mich., Oct. 23, 1996) [Dock. No. 95-CV-70615]) is therefore unavailing. In *Ouellette*, a worker who had fallen after losing her grip on a tank car's side handhold contended that it was improperly placed and that a railing would

have been preferable. The court held this claim preempted under the FRSA, because the tank car regulations had "specifically addressed the safe design and placement of handholds on tank cars." (*Ouellette, supra,* at p. 10.) The present case, however, does not concern the subject or safety of handholds, which, although addressed by the SAA and the regulations, serve a different function than the devices plaintiff asserted should have been present. In *Roland,* a worker who had fallen through an opening in the safety railing prescribed by the tank car regulations asserted that the railing should have been surrounded by a chain. The court concluded that this claim directly conflicted with the secretary's regulatory determination about the structure of tank car railings. Once more, there is no such regulatory coverage or conflict here.

Recognition that the safety appliance regulations neither cover nor engender preemption of plaintiff's claims in this case does not retrench on the SAA's historic preemption, as defendant contends. Nor does it contradict the legislative history of the FRSA, to the effect that the SAA was to be preserved, and that, at that time, "where the Federal Government has authority, with respect to rail safety, it preempts the field." (H.R.Rep. No. 91-1194 (1971), 1971 U.S. Code Cong. & Admin. News, p. 4108.) It is undisputed that both the SAA and the FRSA have certain preemptive effects. But, as discussed, neither of them covers either the subjects of plaintiff's claims nor the broad and undefined field for which defendant contends. We conclude that plaintiff's claims were not preempted by either the SAA or the FRSA.

2. *Product Liability*.

Defendant makes a series of contentions to the effect that plaintiff's claims were not established as a matter of California law. First, defendant contends that plaintiff's claim that the hopper car was defective in design should be deemed barred as a matter of law because the federal regulations, discussed above, do not require the design features plaintiff advanced, and indeed such additional features would require federal approval. Defendant relies on *Ramirez v. Plough, Inc.* (1993) 6 Cal.4th 539, a negligence and product liability case in which the court adopted, as the standard of care concerning furnishing prescription drug warnings in Spanish, the determinations of the Food and Drug Administration and the California Legislature to impose no such requirement. The present case is not comparable. As *Ramirez* noted, regulatory standards are normally treated as the minimum rather than exclusive measure of civil responsibility, although in some cases they may be accepted as sufficient. (*Id.* at p. 548.) Defendant advances no showing, comparable to that in *Ramirez*, that the secretary has concluded that railings on hopper cars such as urged by plaintiff should not be required. Just as the regulatory absence of such requirements did not prove intent to preempt them, it also does not prove that the regulations should serve as the exclusive measure of safety design under California law. (Cf. *Carlin v. Superior Court* (1996) 13 Cal.4th 1104, 1113-1114.)[9]

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[9] Nor does the fact that implementation of the suggested modifications would have required federal approval defeat the claim of defect. Moreover, it was not plaintiff's burden to prove,

Defendant next poses a series of contentions concerning the legal sufficiency of plaintiff's proof of causation and damage. First, plaintiff's expert, Borowick, an engineering professor with substantial experience in transportation equipment and safety, opined that a safety railing would have prevented plaintiff's fall. Defendant contends that the opinion was not based on an adequate foundation concerning the physical circumstances of the accident. However, the opinion was rendered in response to a hypothetical question, which was based on plaintiff's testimony about those circumstances. No objection to the hypothetical was made. Thus, there was sufficient foundation for the opinion. That the opinion's underpinnings did not coincide with the views of defendant's expert did not render it unsupported.

The same holds true with respect to Borowick's opinion that the alternative measure, a low rail to which a safety harness could be attached, would have prevented the accident. Borowick also testified that the harness could be hooked to the existing walkboard of the car, although that assembly would afford the worker less mobility. Given this alternative, defendant argues, "there was no adequate foundation for the conclusion that the low railing design would have altered the outcome." But to the extent that it may properly be said to concern causation, as distinguished from defect, this argument too goes to the weight of the opinion, not its foundation. The correlative argument that there was no evidence that

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as defendant suggests, that such approval surely would have been obtained had defendant sought it. In any event, the evidence on that question was not one-sided.

Wincup would have provided the harness had defendant made provision for it fails to allow for reasonable inferences.

Defendant next contends that, absent testimony by a medical expert, the evidence was insufficient to establish with the necessary degree of "medical probability" that plaintiff's injuries would have been averted by either of the suggested safety measures. However, Borowick opined that the full railing would have prevented plaintiff from falling, and that with the harness he would have fallen at most six feet. Moreover, plaintiff testified that if the car had carried the proposed warning not to work without a harness, he would not have ascended it at all. Together, this evidence was sufficient to support plaintiff's theory that his injuries would have been obviated had the car been equipped as suggested.

Defendant also asserts that plaintiff's claim based on failure to warn was insufficient as a matter of law, for several reasons. First, defendant contends that there could be no duty to warn of the "obvious" risk of falling from a 15-foot high hopper car. But plaintiff's claim was not predicated on such a warning. Rather, plaintiff asserted that, under all the circumstances, a warning not to work on top of the car without "fall protection," illustrating the harness device, should have been provided along with the design alternative of a hook-up railing. There are two types of warnings on which a failure to warn claim may be based: "First, the manufacturer may be required adequately to instruct the consumer as to how the product should be used. . . . A second distinctive form of warning is that which informs a consumer . . . of

potential risks or side effects which may follow the foreseeable use of the product." (*Finn v. G. D. Searle & Co.* (1984) 35 Cal.3d 691, 699.) Plaintiff's claim was of the first variety. That the risk of falling may have been palpable did not disqualify that claim. (Cf. *Midgley v. S. S. Kresge Co.* (1976) 55 Cal.App.3d 67 [telescope user who knew that it was dangerous to view the sun without eye protection could assert failure to warn claim based on absence of instructions about mounting solar filter].)[10]

Defendant finally contends that there was insubstantial evidence of causation by the lack of warning. Defendant cites the absence of expert opinion that the warning would have been effective, and urges that plaintiff's own testimony that he would not have ascended the car had the warning been given must be disregarded as speculative. The contention lacks merit. The jury was entitled to infer, from all the evidence including the descriptions of the proposed warning sign, that plaintiff would have reacted to it in the very way that he testified he would have. Moreover, that testimony – a lay opinion or conclusion – was admitted without objection, and it too may and does support the verdict. (See *Stickel v. San Diego Elec. Ry. Co.* (1948) 32 Cal.2d 157, 161.)

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[10] Citing negligence cases, defendant asserts that the existence of a "duty to warn" in product liability is always a question for the court. The point is not material, but it also appears incorrect. Defendant's "duty to warn" is a shorthand expression for product defect by reason of inadequate warning. That question is for the jury, unless the facts make it determinable as a matter of law. (See, e.g., *Finn, supra*, 35 Cal.3d at p. 700.)

3. *Jury Instruction.*

Defendant's final contention is that the court committed prejudicial error by instructing the jury with BAJI No. 2.02 (8th ed. 1994), to the effect that: "If weaker and less satisfactory evidence is offered by a party, when it was within such party's ability to produce stronger and more satisfactory evidence, the evidence offered should be viewed with distrust." The issue concerns certain testimony by defendant's expert, Ruprecht, an engineer and railroad consultant who had been employed by defendant for several decades.

On direct examination, Ruprecht testified to the number of falls from hopper cars that had occurred between 1982 and 1992, and also as to the average number of trips made by such cars annually. Regarding the number of falls, Ruprecht stated on cross-examination that he was relying on his memory and that of "several other people," but that defendant presumably had documents that would support it. Concerning the number of trips, Ruprecht explicitly based his testimony on various trade group and governmental reports. He admitted not bringing any such documents to court. The trial court sustained objections to argumentative questions about why he had not done so, and told the jury to disregard their "innuendo." Later, over defendant's objection, the court gave BAJI No. 2.02, and allowed plaintiff's counsel to refer to it in argument.

Defendant primarily contends that the instruction should not have been given because there was no evidentiary basis for it. There was. With respect to the trip numbers, Ruprecht squarely testified to the existence and

identity of reports on which he had based his account, but defendant did not choose to produce or offer them. The testimonial summary could well be characterized as "weaker and less satisfactory evidence" (BAJI No. 2.02) than the figures contained in the documentation, which the witness said he had consulted "within the last year." (Cf. *Largey v. Intrastate Radiotelephone, Inc.* (1982) 136 Cal.App.3d 660, 672.) And the documents would not have been merely cumulative: they were the primary source of the witness's assertion, possessing potential for precise proof (or contradiction). Finally, the instruction was not confusingly contradictory of the court's rulings on cross-examination. The court admitted the testimony about the existence of the documents, and only ruled out argumentative questions about why they had not been brought. There was no error.

DISPOSITION

The judgment and the order denying judgment notwithstanding the verdict are affirmed.

CERTIFIED FOR PARTIAL PUBLICATION.

/s/ Fukuto, J.
FUKUTO

We concur:

/s/ Boren, P.J.
BOREN

/s/ Zebrowski, J.
ZEBROWSKI

APPENDIX C

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Attorneys for Plaintiff, JOSE CARRILLO

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

JOSE CARRILLO, Plaintiff, vs. WINCUP HOLDINGS, INC. dba WINKLER PLASTICS; ACF INDUSTRIES, INCORPORATED; and DOES 1 through 50, inclusive, Defendant.	Case No. BC 083 711 (Re-Assigned to Judge Alban I. Niles) JUDGMENT (Filed Feb. 26, 1996)

The trial of this matter commenced in Department 71 of the above entitled court on January 31, 1996, before the Honorable Alban I. Niles, Judge of the Superior Court. Jerome L. Ringler of Fogel, Feldman, Ostrov, Ringler & Klevens appeared for plaintiff Jose Carrillo; Ronald A. Dwyer and Douglas W. Schroeder of Chase, Rotchford, Drukker & Bogust appeared on behalf of defendant ACF Industries, Inc.

Pursuant to the special verdict rendered in writing by the jury of 12 persons on February 16, 1996, IT IS ORDERED AND ADJUDGED AS FOLLOWS:

Plaintiff Jose Carrillo shall have and recover from defendant ACF Industries, Inc. the sum of $1,429,274.13, calculated as follows:

	Economic Damages	$1,279,000.00
Minus	Plaintiff's Comparative Fault (6% of $1,279,000)	-76,740.00
		1,202,260.00
Minus	Portion of Wincup Settlement Allocated to Economic Damages (39.98% of $300,000)	-119,940.00
		1,082,320.00
Minus	Full Amount of Worker's Compensation Benefits	-344,245.87
	Net Economic Damages	738,074.13
Plus	ACF's Proportionate Share of Non-Economic Damages (36% of $1,920,000)	+691,200.00
	Net Verdict Against ACF	$1,429,274.13

In addition to the net monetary judgment against ACF Industries, Inc., set forth above, plaintiff Jose Carrillo is entitled to costs of suit in the amount of $15,491.95.

Dated: FEB 26 1996

/s/ Alban I. Niles
Hon. Alban I. Niles,
Judge of the Superior Court

APPROVED AS TO FORM:

February 23, 1996

CHASE, ROTCHFORD,
DRUKKER & BOGUST
A Law Corporation

By: /s/ Douglas W. Schroeder
Douglas W. Schroeder
Attorneys for defendant
ACF INDUSTRIES, INC.

APPENDIX D

Supremacy Clause

of the United States Constitution

Article VI,

Clause 2

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

APPENDIX E

Safety Appliances Act

49 U.S.C. § 20301. Definition and nonapplication

(a) Definition. – In this chapter, "vehicle" means a car, locomotive, tender, or similar vehicle.

(b) Nonapplication. – This chapter does not apply to the following:

(1) a train of 4-wheel coal cars.

(2) a train of 8-wheel standard logging cars if the height of each car from the top of the rail to the center of the coupling is not more than 25 inches.

(3) a locomotive used in hauling a train referred to in clause (2) of this subsection when the locomotive and cars of the train are used only to transport logs.

(Added Pub.L. 103-272, § 1(e), July 5, 1994, 108 Stat. 881.)

49 U.S.C. § 20302. General requirements

(a) General. – Except as provided in subsection (c) of this section and section 20303 of this title, a railroad carrier may use or allow to be used on any of its railroad lines –

(1) a vehicle only if it is equipped with –

(A) couplers coupling automatically by impact, and capable of being uncoupled, without the necessity of individuals going between the ends of the vehicles;

(B) secure sill steps and efficient hand brakes; and

(C) secure ladders and running boards when required by the Secretary of Transportation, and, if ladders are required, secure handholds or grab irons on its roof at the top of each ladder;

(2) except as otherwise ordered by the Secretary, a vehicle only if it is equipped with secure grab irons or handholds on its ends and sides for greater security to individuals in coupling and uncoupling vehicles;

(3) a vehicle only if it complies with the standard height of drawbars required by regulations prescribed by the Secretary;

(4) a locomotive only if it is equipped with a power-driving wheel brake and appliances for operating the train-brake system; and

(5) a train only if –

(A) enough of the vehicles in the train are equipped with power or train brakes so that the engineer on the locomotive hauling the train can control the train's speed without the necessity of brake operators using the common hand brakes for that purpose; and

(B) at least 50 percent of the vehicles in the train are equipped with power or train brakes and the engineer is using the power or train brakes on those vehicles and on all other vehicles equipped with them that are associated with those vehicles in the train.

(b) Refusal to receive vehicles not properly equipped. – A railroad carrier complying with subsection (a)(5)(A) of this section may refuse to receive from a

railroad line of a connecting railroad carrier or a shipper a vehicle that is not equipped with power or train brakes that will work and readily interchange with the power or train brakes in use on the vehicles of the complying railroad carrier.

(c) Combined vehicles loading and hauling long commodities. – Notwithstanding subsection (a)(1)(B) of this section, when vehicles are combined to load and haul long commodities, only one of the vehicles must have hand brakes during the loading and hauling.

(d) Authority to change requirements. – The Secretary may –

> **(1)** change the number, dimensions, locations, and manner of application prescribed by the Secretary for safety appliances required by subsection (a)(1)(B) and (C) and (2) of this section only for good cause and after providing an opportunity for a full hearing;
>
> **(2)** amend regulations for installing, inspecting, maintaining, and repairing power and train brakes only for the purpose of achieving safety; and
>
> **(3)** increase, after an opportunity for a full hearing, the minimum percentage of vehicles in a train that are required by subsection (a)(5)(B) of this section to be equipped and used with power or train brakes.

(e) Services of Association of American Railroads. – In carrying out subsection (d)(2) and (3) of this section, the Secretary may use the services of the Association of American Railroads.

(Added Pub.L. 103-272, § 1(e), July 5, 1994, 108 Stat. 881.)

APPENDIX F

SUBCHAPTER I - GENERAL

§ 20101. Purpose

The purpose of this chapter is to promote safety in every area of railroad operations and reduce railroad-related accidents and incidents.

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§ 20106. National uniformity of regulation

Laws, regulations, and orders related to railroad safety shall be nationally uniform to the extent practicable. A State may adopt or continue in force a law, regulation, or order related to railroad safety until the Secretary of Transportation prescribes a regulation or issues an order covering the subject matter of the State requirement. A State may adopt or continue in force an additional or more stringent law, regulation, or order related to railroad safety when the law, regulation, or order -

(1) is necessary to eliminate or reduce an essentially local safety hazard;

(2) is not incompatible with a law, regulation, or order of the United States Government; and

(3) does not unreasonably burden interstate commerce.

APPENDIX G

PART 231 – RAILROAD SAFETY APPLIANCE STANDARDS

Sec.

231.0 Applicability and penalties.

231.1 Box and other house cars built or placed in service before October 1, 1966.

231.2 Hopper cars and high-side gondolas with fixed ends.

231.3 Drop-end high-side gondola cars.

231.4 Fixed-end low-side gondola and low-side hopper cars.

231.5 Drop-end low-side gondola cars.

231.6 Flat cars.

231.7 Tank cars with side platforms.

231.8 Tank cars without side sills and tank cars with short side sills and end platforms.

231.9 Tank cars without end sills.

231.10 Caboose cars with platforms.

231.11 Caboose cars without platforms.

231.12 Passenger-train cars with wide vestibules.

231.13 Passenger-train cars with open-end platforms.

231.14 Passenger-train cars without end platforms.

231.15 Steam locomotives used in road service.

231.16 Steam locomotives used in switching service.

231.17 Specifications common to all steam locomotives.

231.18 Cars of special construction.

231.19 Definition of "Right" and "Left."

231.20 Variation in size permitted.

231.21 Tank cars without underframes.

231.22 Operation of track motor cars.

231.23 Unidirectional passenger-train cars adaptable to van-type semi-trailer use.

231.24 Box and other house cars with roofs, 16 feet 10 inches or more above top of rail.

231.25 Track motorcars (self-propelled 4-wheel cars which can be removed from the rails by men).

231.26 Pushcars.

231.27 Box and other house cars without roof hatches or placed in service after October 1, 1966.

231.28 Box and other house cars with roof hatches built or placed in service after October 1, 1966.

231.29 Road locomotives with corner stairways.

231.30 Locomotives used in switching service.

APPENDIX A TO PART 231 – SCHEDULE OF CIVIL PENALTIES

AUTHORITY: 49 U.S.C. 20103, 20107, 20301-20306, and 49 CFR 1.49.

SOURCE: 33 FR 19663, Dec. 25, 1968, unless otherwise noted.

NOTE: Where rivets or bolts are required in this part 231 a two-piece steel rivet may be used consisting of:

(a) a solid shank of one-half (1/2) inch minimum diameter steel or material of equal or greater strength

having cold forged head on one end, a shank length for material thickness fastened, locking grooves, breakneck groove and pull grooves (all annular grooves) on the opposite end.

(b) a collar of similar material which is cold swaged into the locking grooves forming a head for the opposite end of item (a) after the pull groove section has been removed.

§ 231.0 Applicability and penalties.

(a) Except as provided in paragraph (b), this part applies to all standard gage railroads.

(b) This part does not apply to: (1) A railroad that operates only on track inside an installation which is not part of the general railroad system of transportation; or (2) Rapid transit operations in an urban area that are not connected with the general railroad system of transportation.

(c) As used in this part, *carrier* means "railroad," as that term is defined below.

(d) *Railroad* means all forms of non-highway ground transportation that run on rails or electromagnetic guideways, including (1) commuter or other short-haul rail passenger service in a metropolitan or suburban area, and (2) high speed ground transportation systems that connect metropolitan areas, without regard to whether they use new technologies not associated with traditional railroads. Such term does not include rapid transit operations within an urban area that are not connected to the general railroad system of transportation.

(e) Any person (an entity of any type covered under 1 U.S.C. 1, including but not limited to the following: a railroad; a manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track, or facilities; any independent contractor providing goods or services to a railroad; and any employee of such owner, manufacturer, lessor, lessee, or independent contractor) who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least $500 and not more than $11,000 per violation, except that: penalties may be assessed against individuals only for willful violations, and, where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury to persons, or has caused death or injury, a penalty not to exceed $22,000 per violation may be assessed. Each day a violation continues shall constitute a separate offense. See appendix A to this part for a statement of agency civil penalty policy.

§ 231.1 Box and other house cars built or placed in service before October 1, 1966.

Except for box and other house cars that comply with either Sec. 231.27 or Sec. 231.28, each box and other house car shall be equipped to meet the following specifications:

(a) *Handbrake* – (1) *Number.* One efficient handbrake which shall operate in harmony with the power brake installed on the car. Each such handbrake shall (i) provide the same degree of safety as the design shown on plate A,

or (ii) provide the same degree of safety as that specified in Sec. 231.27.

(2) *Dimensions.* (i) The brake shaft shall be not less than 1¼ inches in diameter, of wrought iron or steel without weld.

(ii) The brake wheel may be flat or dished, not less than 15, preferably 16, inches in diameter, of malleable iron, wrought iron, or steel.

(3) *Location.* (i) The hand brake shall be so located that it can be safely operated while car is in motion.

(ii) The brake shaft shall be located on end of car, to the left of and not less than 17 nor more than 22 inches from center.

(iii) Carriers are not required to change the brakes from right to left side on steel or steel-underframe cars with platform end sills in service July 1, 1911, except when such appliances are renewed, at which time they must be made to comply with the standards prescribed.

(iv) Carriers are not required to change the location of brake wheels and brake shafts on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* (i) There shall be not less than 4 inches clearance around rim of brake wheel.

(ii) Outside edge of brake wheel shall be not less than 4 inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when

closed with coupler horn against the buffer block or end sill.

(iii) Top brake-shaft support shall be fastened with not less than 1/2-inch bolts or rivets. (See plate A.)

[Diagram Omitted in Printing]

(iv) A brake-shaft step shall support the lower end of brake shaft. A brake-shaft step which will permit the brake chain to drop under the brake shaft shall not be used. U-shaped form of brakeshaft step is preferred. (See plate A.)

(v) Brake shaft shall be arranged with a square fit at its upper end to secure the hand-brake wheel; said square fit shall be not less than seven-eighths of an inch square. Square-fit taper, nominally 2 in 12 inches. (See plate A.)

(vi) Brake chain shall be of not less than 3/8-, preferably 7/16-, inch wrought iron or steel, with a link on the brakerod end of not less than 7/16-, preferably 1/2-, inch wrought iron or steel, and shall be secured to brake-shaft drum by not less than 1/2-inch hexagon or square-headed bolt. Nut on said bolt shall be secured by riveting end of bolt over nut. (See plate A.)

(vii) Lower end of brake shaft shall be provided with a trunnion of not less than 3/4-, preferably 1, inch in diameter extending through brake-shaft step and held in operating position by a suitable cotter or ring. (See plate A.)

(viii) Brake-shaft drum shall be not less than 1 1/2 inches in diameter. (See plate A.)

(ix) Brake ratchet wheel shall be secured to brake shaft by a key or square fit; said square fit shall be not less than $1^{5}/_{16}$ inches square. When ratchet wheel with square fit is used, provision shall be made to prevent ratchet wheel from rising on shaft to disengage brake pawl. (See plate A.)

(x) Brake ratchet wheel shall be not less than $5^{1}/_{4}$, preferably $5^{1}/_{2}$, inches in diameter and shall have not less than 14, preferably 16, teeth. (See plate A.)

(xi) If brake ratchet wheel is more than 36 inches from brake wheel, a brake-shaft support shall be provided to support this extended upper portion of brake shaft; said brake-shaft support shall be fastened with not less than $^{1}/_{2}$-inch bolts or rivets.

(xii) The brake pawl shall be pivoted upon a bolt or rivet not less than five-eighths of an inch in diameter, or upon a trunnion secured by not less than $^{1}/_{2}$-inch bolt or rivet, and there shall be a rigid metal connection between brake shaft and pivot of pawl.

(xiii) Brake wheel shall be held in position on brake shaft by a nut on a threaded extended end of brake shaft; said threaded portion shall be not less than three-fourths of an inch in diameter; said nut shall be secured by riveting over or by the use of a lock nut or suitable cotter.

(xiv) Brake wheel shall be arranged with a square fit for brake shaft in hub of said wheel; taper of said fit, nominally 2 in 12 inches. (See plate A.)

(b) *Brake step.* If brake step is used, it shall be not less than 28 inches in length. Outside edge shall be not less than 8 inches from face of car and not less than 4

inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill.

(1) *Manner of application.* Brake step shall be supported by not less than two metal braces having a minimum cross-sectional area 3/8 by 1 1/2 inches or equivalent, which shall be securely fastened to body of car with not less than 1/2-inch bolts or rivets.

(c) *Running boards* – (1) *Number.* One longitudinal running board. On outside-metal-roof cars two latitudinal extensions.

(2) *Dimensions.* Longitudinal running board shall be not less than 18 and preferably 20 inches in width. Latitudinal extensions shall be not less than 24 inches in width. Wooden running boards or extensions hereafter installed shall be constructed of wood not less than 1 1/8 inches in thickness.

(3) *Location.* Full length of car, center of roof. On outside-metal-roof cars there shall be two latitudinal extensions from longitudinal running board to ladder locations, except on refrigerator cars where such latitudinal extensions cannot be applied on account of ice hatches.

(4) *Manner of application.* (i) Running board shall be continuous from end to end and not cut or hinged at any point: *Provided,* That the length and width of running board may be made up of a number of pieces securely fastened to saddle-blocks with screws, bolts, or rivets.

(ii) The ends of longitudinal running board shall be not less than 6 nor more than 10 inches from a vertical

plane parallel with end of car and passing through the inside face of knuckle when closed with coupler-horn against the buffer-block or endsill; and if more than 4 inches from edge of roof of car, shall be securely supported their full width by substantial metal braces.

(iii) Running board shall be securely fastened to car and be made of wood or of material which provides the same as or a greater degree of safety than wood of 1 1/8 inches thickness. When made of material other than wood the tread surface shall be of anti-skid design and constructed with sufficient open space to permit the elimination of snow and ice from the tread surface.

(d) *Sill steps* – (1) *Number.* Four.

(2) *Dimensions.* Minimum cross-sectional area 1/2 by 1 1/2 inches, or equivalent, of wrought iron or steel. Minimum length of tread, 10, preferably 12, inches. Minimum clear depth, 8 inches.

(3) *Location.* (i) One near each end of each side of car, so that there shall be not more than 18 inches from end of car to center of tread of sill step.

(ii) Outside edge of tread of step shall be not more than 4 inches inside of face of side of car, preferably flush with side of car.

(iii) Tread shall be not more than 24, preferably not more than 22, inches above the top of rail.

(iv) Carriers are not required to change location of sill steps on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* (i) Sill steps exceeding 21 inches in depth shall have an additional tread.

(ii) Sill steps shall be securely fastened with not less than 1/2-inch bolts with nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets.

(e) *Ladders* – (1) *Number.* Four.

(2) *Dimensions.* (i) Minimum clear length of tread: Side ladders 16 inches; end ladders 14 inches. Maximum spacing between ladder treads, 19 inches.

(ii) Top ladder tread shall be located not less than 12 nor more than 18 inches from roof at eaves.

(iii) Spacing of side ladder treads shall be uniform within a limit of 2 inches from top ladder tread to bottom tread of ladder.

(iv) Maximum distance from bottom tread of side ladder to top tread of sill step, 21 inches.

(v) End ladder treads shall be spaced to coincide with treads of side ladders, a variation of 2 inches being allowed. Where construction of car will not permit the application of a tread of end ladder to coincide with bottom tread of side ladder, the bottom tread of end ladder must coincide with second tread from bottom of side ladder.

(vi) Hardwood treads, minimum dimensions 1 1/2 by 2 inches.

(vii) Iron or steel treads, minimum diameter five-eighths of an inch.

(viii) Minimum clearance of treads, 2, preferably 2 1/2, inches.

(3) *Location.* (i) One on each side, not more than 8 inches from right end of car; one on each end, not more than 8 inches from left side of car; measured from inside edge of ladder stile or clearance of ladder treads to corner of car.

(ii) Carriers are not required to change the location of ladders on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(iii) Carriers are not required to change the end ladders on steel or steel underframe cars with platform end sill, in service July 1, 1911, except when such appliances are renewed, at which time they must be made to comply with the standards prescribed.

(4) *Manner of application.* (i) Metal ladders without stiles near corners of cars shall have foot guards or upward projections not less than 2 inches in height near inside end of bottom treads.

(ii) Stiles of ladders, projecting 2 or more inches from face of car, will serve as foot guards.

(iii) Ladders shall be securely fastened with not less than 1/2-inch bolts with nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets. Three-eighths-inch bolts may be used for wooden treads which are gained into stiles.

(f) *End ladder clearance.* (1) No part of car above end sills within 30 inches from side of car, except buffer block,

brake shaft, brake wheel, brake step, running board or uncoupling lever shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same above end sills, other than exceptions herein noted, shall extend beyond the outer face of buffer block.

(2) Carriers are not required to make changes to secure additional end-ladder clearance on cars in service July 1, 1911, that have 10 or more inches end-ladder clearance, within 30 inches of side of car, until car is shopped for work amounting to practically rebuilding body of car, at which time they must be made to comply with the standards prescribed.

(g) *Roof handholds* – (1) *Number.* (i) One over each ladder.

(ii) One right-angle handhold may take the place of two adjacent specified roof handholds, provided the dimensions and locations coincide, and that an extra leg is securely fastened to car at point of angle.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches. Minimum clearance, 2, preferably 2½ inches.

(3) *Location.* (i) On roof of car, one parallel to treads of each ladder, not less than 8 nor more than 15 inches from edge of roof, except on refrigerator cars where ice hatches prevent, when location may be nearer edge of roof.

(ii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end handhold under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Roof handholds shall be securely fastened with not less than 1/2-inch bolts with nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets.

(h) *Side handholds* – (1) *Number.* Four. (Tread of side ladder is a side handhold.)

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches, preferably 24 inches. Minimum clearance, 2, preferably 2 1/2, inches.

(3) *Location.* (i) Horizontal, one near each end on each side of car. Side handholds shall be not less than 24 nor more than 30 inches above center line of coupler, except as provided above, where tread of ladder is a handhold. Clearance of outer end of handhold shall be not more than 8 inches from end of car.

(ii) Carriers are not required to change the location of handholds, on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Side handholds shall be securely fastened with not less than 1/2-inch bolts with

nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets.

(i) *Horizontal end handholds* – (1) *Number.* Eight or more, four on each end of car. (Tread of end ladder is an end handhold.)

(2) *Dimensions.* (i) Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 16 inches, preferably 24 inches.

(ii) A handhold 14 inches in length may be used where it is impossible to use one 16 inches in length.

(iii) Minimum clearance, 2, preferably 2 1/2, inches.

(3) *Location.* (i) One near each side on each end of car, not less than 24 nor more than 30 inches above center line of coupler, except as provided above, when tread of end ladder is an end handhold. Clearance of outer end of handhold shall be not more than 8 inches from side of car.

(ii) One near each side of each end of car on face of end sill or sheathing over end sill, projecting outward or downward. Clearance of outer end of handhold shall be not more than 16 inches from side of car.

(iii) On each end of cars with platform end sills 6 or more inches in width, measured from end post or siding and extending entirely across end of car, there shall be one additional end handhold not less than 24 inches in length, located near center of car, not less than 30 nor more than 60 inches above platform end sill.

(iv) Carriers are not required to change the location of handholds, on cars in service July 1, 1911, except end handholds under end sills, where the appliances are

within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Horizontal end handholds shall be securely fastened with not less than 1/2-inch bolts with nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets.

(j) *Vertical end handholds* – (1) *Number.* Two on full-width platform end-sill cars, as heretofore described.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 18, preferably 24, inches. Minimum clearance, 2, preferably 2 1/2, inches.

(3) *Location.* (i) One on each end of car opposite ladder, not more than 8 inches from side of car; clearance of bottom end of handhold shall be not less than 24 nor more than 30 inches above center line of coupler.

(ii) Carriers are not required to change the location of handholds, on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Vertical end handholds shall be securely fastened with not less than 1/2-inch bolts with nuts outside (when possible) and riveted over, or with not less than 1/2-inch rivets.

(k) *Uncoupling levers* – (1) *Number.* Two. Uncoupling levers may be either single or double, and of any efficient design.

(2) *Dimensions.* (i) Handles of uncoupling levers, except those shown on plate B or of similar designs, shall be not more than 6 inches from sides of car.

(ii) Uncoupling levers of design shown on plate B and of similar designs shall conform to the following prescribed limits:

(iii) Handles shall be not more than 12, preferably 9, inches from sides of cars. Center lift arms shall be not less than 7 inches long.

(iv) Center of eye at end of center lift arm shall be not more than 3½ inches beyond center of eye of uncoupling pin of coupler when horn of coupler is against the buffer block or end sill. (See plate B.)

[Diagram Omitted In Printing]

(v) Ends of handles shall extend not less than 4 inches below bottom of end sill or shall be so constructed as to give a minimum clearance of 2 inches around handle. Minimum drop of handles shall be 12 inches; maximum, 15 inches over all. (See plate B.)

(vi) Handles of uncoupling levers of the "rocking" or "push-down" type shall be not less than 18 inches from top of rail when lock block has released knuckle, and a suitable stop shall be provided to prevent inside arm from flying up in case of breakage.

(3) *Location.* One on each end of car. When single lever is used, it shall be placed on left side of end of car.

Sec. 231.2 Hopper cars and high-side gondolas with fixed ends.

(Cars with sides more than 36 inches above the floor are high-side cars.)

(a) *Hand brakes* – (1) *Number.* Same as specified for "Box and other house cars" (see Sec. 231.1(a)(1)).

(2) *Dimensions.* Same as specified for "Box and other house cars" (see Sec. 231.1(a)(2)).

(3) *Location.* (i) Each hand brake shall be so located that it can be safely operated while car is in motion.

(ii) The brake shaft shall be located on end of car to the left of, and not more than 22 inches from, center.

(iii) Carriers are not required to change the brakes from right to left side on steel or steel-underframe cars with platform end sills, in service July 1, 1911, except when such appliances are renewed, at which time they must be made to comply with the standards prescribed.

(iv) Carriers are not required to change the location of brake wheels and brake shafts on cars in service July 1, 1911, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Same as specified for "Box and other house cars" (see Sec. 231.1(a)(4)).

(b) *Brake step.* Same as specified for "Box and other house cars" (see Sec. 231.1(b)).

(c) *Sill steps.* Same as specified for "Box and other house cars" (see Sec. 231.1(d)).

(d) *Ladders* – (1) *Number.* Same as specified for "Box and other house cars" (see Sec. 231.1(e)(1)).

(2) *Dimensions.* Same as specified for "Box and other house cars" (see Sec. 231.1(e)(2)), except that top ladder tread shall be located not more than 4 inches from top of car.

(3) *Location.* Same as specified for "Box and other house cars" (see Sec. 231.1(e)(3)).

(4) *Manner of application.* Same as specified for "Box and other house cars" (see Sec. 231.1(e)(4)).

(e) *Side handholds.* Same as specified for "Box and other house cars" (see Sec. 231.1(h)).

(f) *Horizontal end handholds.* Same as specified for "Box and other house cars" (see Sec. 231.1(i)).

(g) *Vertical end handholds.* Same as specified for "Box and other house cars" (see Sec. 231.1(j)).

(h) *Uncoupling levers.* Same as specified for "Box and other house cars" (see Sec. 231.1(k)).

(i) *End-ladder clearance.* (1) No part of car above end sills within 30 inches from side of car, except buffer block, brake shaft, brake wheel, brake step, or uncoupling lever shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same above end sills, other than exceptions

herein noted, shall extend beyond the outer face of buffer block.

(2) Carriers are not required to make changes to secure additional end-ladder clearance on cars in service July 1, 1911, that have 10 or more inches end-ladder clearance within 30 inches of side of car, until car is shopped for work amounting to practically rebuilding body of car, at which time they must be made to comply with the standards prescribed.

* * *

§231.7 Tank cars with side platforms.

(a) *Hand brakes* – (1) *Number.* Same as specified for "Box and other house cars" (see §231.1(a)(1)).

(2) *Dimensions.* Same as specified for "Box and other house cars" (see §231.1(a)(2)).

(3) *Location.* (i) Each hand brake shall be so located that it can be safely operated while car is in motion.

(ii) The brake shaft shall be located on end of car to the left of center.

(iii) Carriers are not required to change the brakes from right to left side on steel or steel-underframe cars with platform end sills in service July 1, 1911, except when such appliances are renewed, at which time they must be made to comply with the standards prescribed.

(4) *Manner of application.* Same as specified for "Box and other house cars" (see §231.1(a)(4)).

(b) *Sill steps.* Same as specified for "Box and other house cars" (see §231.1(d)).

(c) *Side handholds* – (1) *Number.* Four or more.

(2) *Dimensions.* Same as specified for "Box and other house cars" (see §231.1(h)(2)).

(3) *Location.* (i) Horizontal, one on face of each side sill near each end. Clearance of outer end of handhold shall be not more than 12 inches from end of car.

(ii) If side safety railings are attached to tank or tank bands, four additional vertical handholds shall be applied, one as nearly as possible over each sill step and securely fastened to tank or tankband.

(iii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Same as specified for "Box and other house cars" (see §231.1(h)(4)).

(d) *End handholds* – (1) *Number.* Four.

(2) *Dimensions.* Same as specified for "Box and other house cars" (see §231.1(i)(2)).

(3) *Location.* (i) Horizontal, one near each side of each end of car on face of end sill. Clearance of outer end of handhold shall be not more than 16 inches from side of car.

(ii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Same as specified for "Box and other house cars" (see §231.1(i)(4)).

(e) *Tank-head handholds* – (1) *Number.* Two. (Not required if safety railing runs around ends of tank.)

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clearance, 2, preferably 2½ inches. Clear length of handholds shall extend to within 6 inches of outer diameter of tank at point of application.

(3) *Location.* (i) Horizontal, one across each head of tank not less than 30 nor more than 60 inches above platform.

(ii) Carriers are not required to change the location of handholds on cars in service July 1, 1911, except end handholds under end sills, where the appliances are within 3 inches of the required location, except that when cars undergo regular repairs they must then be made to comply with the standards prescribed.

(4) *Manner of application.* Tankhead handholds shall be securely fastened.

(f) *Safety railings* – (1) *Number.* One continuous safety railing running around sides and ends of tank, securely fastened to tank or tank bands at ends and sides

of tank; or two running full length of tank at sides of cars supported by posts.

(2) *Dimensions.* Not less than three-fourths of an inch, iron.

(3) *Location.* Running full length of tank either at side supported by posts or securely fastened to tank or tank bands, not less than 30 nor more than 60 inches above platform.

(4) *Manner of application.* Safety railings shall be securely fastened to tank body, tank bands, or posts.

(g) *Uncoupling levers.* Same as specified for "Box and other house cars" (see §231.1(k)).

(h) *End-ladder clearance.* (1) No part of car above end sills within 30 inches from side of car, except buffer block, brake shaft, brake-shaft brackets, brake wheel or uncoupling level shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same above end sills, other than exceptions noted in this subparagraph, shall extend beyond the outer face of buffer block.

(2) Carriers are not required to make changes to secure additional end-ladder clearance on cars in service July 1, 1911, that have 10 or more inches end-ladder clearance, within 30 inches of side of car, until car is shopped for work amounting to practically rebuilding

body of car, at which time they must be made to comply with the standards prescribed.

* * *

§231.15 Steam locomotives used in road service.

(a) *Tender till-steps* – (1) *Number.* Four on tender.

(2) *Dimensions.* (i) Bottom tread not less than 8 by 12 inches, metal. (May have wooden treads.)

(ii) If stirrup steps are used, clear length of tread shall be not less than 10, preferably 12, inches.

(3) *Location.* One near each corner of tender on sides.

(4) *Manner of application.* Tender sill-steps shall be securely fastened with bolts or rivets.

(b) *Pilot sill-steps* – (1) *Number.* Two.

(2) *Dimensions.* Tread not less than 8 inches in width by 10 inches in length, metal. (May have wooden treads.)

(3) *Location.* One on or near each end of buffer-beam outside of rail and not more than 16 inches above rail.

(4) *Manner of application.* Pilot sill-steps shall be securely fastened with bolts or rivets.

(c) *Pilot-beam handholds* – (1) *Number.* Two.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 14, preferably 16, inches. Minimum clearance, $2^1/_2$ inches.

(3) *Location.* One on each end of buffer-beam. If uncoupling lever extends across front end of locomotive to within 8 inches of end of buffer-beam, and is seven-eighths of an inch or more in diameter, securely fastened, with a clearance of 2½ inches, it is a handhold.)

(4) *Manner of application.* Pilot-beam handholds shall be securely fastened with bolts or rivets.

(d) *Side handholds* – (1) *Number.* Six.

(2) *Dimensions.* Minimum diameter, if horizontal, five-eighths of an inch; if vertical, seven-eighths of an inch, wrought iron or steel. Horizontal, minimum clear length, 16 inches. Vertical, clear length equal to approximate height of tank. Minimum clearance, 2, preferably 2½ inches.

(3) *Location.* (i) Horizontal or vertical. If vertical, one on each side of tender within 6 inches of rear or on corner; if horizontal, same as specified for "Box and other house cars" (see §231.1(h)(3)).

(ii) One on each side of tender near gangway; 1 on each side of locomotive at gangway; applied vertically.

(4) *Manner of application.* Side handholds shall be securely fastened with not less than ½-inch bolts or rivets.

(e) *Rear-end handholds* – (1) *Number.* Two.

(2) *Dimensions.* Minimum diameter, five-eighths of an inch, wrought iron or steel. Minimum clear length, 14 inches. Minimum clearance, 2, preferably 2½ inches.

(3) *Location.* Horizontal, one near each side of rear end of tender on face of end sill. Clearance of outer end

of handhold shall be not more than 16 inches from side of tender.

(4) *Manner of application.* Rear-end handholds shall be securely fastened with not less than 1/2-inch bolts or rivets.

(f) *Uncoupling levers* – (1) *Number.* Two double levers, operative from either side.

(2) *Dimensions.* Rear-end levers shall extend across end of tender with handles not more than 12, preferably 9, inches from side of tender with a guard bent on handle to give not less than 2 inches clearance around handle.

(3) *Location.* One on rear end of tender and one on front end of locomotive. Handles of front-end leavers shall be not more than 12, preferably 9, inches from ends of buffer-beam, and shall be so constructed as to give a minimum clearance of 2 inches around handle.

(4) *Manner of application.* Uncoupling levers shall be securely fastened with bolts or rivets.

(g) *Couplers.* Locomotives shall be equipped with automatic couplers at rear of tender and front of locomotive.

§231.16 Steam locomotives used in switching service.

(a) *Footboards* – (1) *Number.* Two or more.

(2) *Dimensions.* (i) Minimum width of tread, 10 inches.

(ii) Minimum height of back stop, 4 inches above tread.

(iii) Height from top of rail to top of tread, not more than 12 nor less than 9 inches.

(iv) If made of wood, minimum thickness of tread shall be 1½ preferably 2 inches.

(v) Footboards may be made of material other than wood which provides the same as or a greater degree of safety than wood of 1½ inches thickness. When made of material other than wood, the tread surface shall be of antiskid design and constructed with sufficient open space to permit the elimination of snow and ice from the tread surface.

(3) *Location.* Ends or sides. If on ends, they shall extend not less than 18 inches outside of guage of straight track, and shall be not more than 12 inches shorter than buffer-beam at each end.

(4) *Manner of application.* (i) End footboards may be constructed in two sections, provided that practically all space on each side of coupler is filled; each section shall be not less than 3 feet in length.

(ii) Footboards shall be securely bolted to two 1- by 4-inch metal brackets, provided footboard is not cut or notched at any point.

(iii) If footboard is cut or notched or in two sections, not less than four 1- by 3-inch metal brackets shall be used, two located on each side of coupler. Each bracket shall be securely bolted to buffer-beam, end sill or tank frame by not less than two ⅞-inch bolts.

(iv) If side footboards are used, a substantial hand-hold or rail shall be applied not less than 30 inches nor more than 60 inches above tread or footboard.

(b) *Sill steps* – (1) *Number.* Two or more.

(2) *Dimensions.* (i) Lower tread of step shall be not less than 8 by 12 inches, metal. (May have wooden treads.)

(ii) If stirrup steps are used, clear length of tread shall be not less than 10, preferably 12, inches.

(3) *Location.* One or more on each side at gangway secured to locomotive or tender.

(4) *Manner of application.* Sill steps shall be securely fastened with bolts or rivets.

(c) *End handholds* – (1) *Number.* Two.

(2) *Dimensions.* Minimum diameter, 1 inch, wrought iron or steel. Minimum clearance, 4 inches, except at coupler casting or braces when minimum clearance shall be 2 inches.

(3) *Location.* One on pilot, buffer-beam; one on rear end of tender, extending across front end of locomotive and rear end of tender. Ends of handholds shall be not more than 6 inches from ends of buffer-beam or end sill, securely fastened at ends.

(4) *Manner of application.* End handholds shall be securely fastened with bolts or rivets.

(d) *Side handholds* – (1) *Number.* Four.

(2) *Dimensions.* Minimum diameter, seven-eighths of an inch, wrought iron or steel. Clear length equal to approximate height of tank. Minimum clearance, 2, preferably 2½ inches.

(3) *Location.* Vertical. One on each side of tender near front corner; one on each side of locomotive at gangway.

(4) *Manner of application.* Side handholds shall be securely fastened with bolts or rivets.

(e) *Uncoupling levers* – (1) *Number.* Two double levers, operative from either side.

(2) *Dimensions.* (i) Handles of front-end levers shall be not more than 12, preferably 9, inches from ends of buffer-beam, and shall be so constructed as to give a minimum clearance of 2 inches around handle.

(ii) Rear-end levers shall extend across end of tender with handles not more than 12, preferably 9, inches from side of tender, with a guard bent on handle to give not less than 2 inches clearance around handle.

(3) *Location.* One on rear end of tender and one on front end of locomotive.

(f) *Handrails and steps for headlights.* Switching locomotives with sloping tenders with manhole or headlight located on sloping portion of tender shall be equipped with secure steps and handrail or with platform and handrail leading to such manhole or headlight.

(g) *End-ladder clearance.* No part of locomotive or tender except draft rigging, coupler and attachments, safety chains, buffer block, footboard, brake pipe, signal pipe, steam-heat pipe or arms of uncoupling lever shall extend to within 14 inches of a vertical plane passing through the inside face of knuckle when closed with horn of coupler against buffer block or end sill.

(h) *Couplers.* Locomotives shall be equipped with automatic couplers at rear of tender and front of locomotive.

§231.17 Specifications common to all steam locomotives.

(a) *Hand brakes.* (1) Hand brakes will not be required on locomotives nor on tenders when attached to locomotives.

(2) If tenders are detached from locomotives and used in special service, they shall be equipped with efficient hand brakes.

(b) *Running boards* – (1) *Number.* Two.

(2) *Dimensions.* Not less than 10 inches wide. If of wood, not less than 1½ inches in thickness; if of metal, not less than three-sixteenths of an inch, properly supported.

(3) *Location.* One on each side of boiler extending from cab to front end near pilot-beam. (Running boards may be in sections. Flat-top steamchests may form section of running board.)

(4) *Manner of application.* (i) Running boards shall be securely fastened with bolts, rivets, or studs.

(ii) Locomotives having Wootten type boilers with cab located on top of boiler more than 12 inches forward from boiler head shall have suitable running boards running from cab to rear of locomotive, with handrailings not less than 20 nor more than 48 inches above outside

edge of running boards, securely fastened with bolts, rivets, or studs.

(c) *Handrails* – (1) *Number.* Two or more.

(2) *Dimensions.* Not less than 1 inch in diameter, wrought iron or steel.

(3) *Location.* One on each side of boiler extending from near cab to near front end of boiler, and extending across front end of boiler, not less than 24 nor more than 66 inches above running board.

(4) *Manner of application.* Handrails shall be securely fastened to boiler.

(d) *Tenders of Vanderbilt type.* (1) Tenders known as the Vanderbilt type shall be equipped with running boards; one on each side of tender not less than 10 inches in width and one on top of tender not less than 48 inches in width, extending from coal space to rear of tender.

(2) There shall be a handrail on each side of top running board, extending from coal space to rear of tank, not less than 1 inch in diameter and not less than 20 inches in height above running board from coal space to manhole.

(3) There shall be a handrail extending from coal space to within 12 inches of rear of tank, attached to each side of tank above side running board not less than 30 nor more than 66 inches above running board.

(4) There shall be one vertical end handhold on each side of Vanderbilt type of tender, located within 8 inches of rear of tank extending from within 8 inches of top of end sill to within 8 inches of side handrail. Post

supporting rear end of side running board, if not more than 2 inches in diameter and properly located, may form section of handhold.

(5) An additional horizontal end handhold shall be applied on rear end of all Vanderbilt type of tenders which are not equipped with vestibules. Handhold to be located not less than 30 nor more than 66 inches above top of end sill. Clear length of handhold to be not less than 48 inches.

(6) Ladders shall be applied at forward ends of side running boards.

(e) *Handrails and steps for headlights.*

(1) Locomotives having headlights which can not be safely and conveniently reached from pilot-beam or steam chests shall be equipped with secure handrails and steps suitable for the use of men in getting to and from such headlights.

(2) A suitable metal end or side ladder shall be applied to all tanks more than 48 inches in height, measured from the top of end sill, and securely fastened with bolts or rivets.

(f) *Couplers.* Locomotives shall be equipped with automatic couplers at rear of tender and front of locomotive.

* * *

§231.27 Box and other house cars without roof hatches or placed in service after October 1, 1966.

(a) *Handbrakes.* The handbrake may be of any efficient design, but must provide the same degree of safety as, or a greater degree of safety than, the following specifications:

(1) *Number.* (i) Each box or other house car without roof hatches shall be equipped with an efficient vertical wheel handbrake which shall operate in harmony with the power brake thereon.

(ii) The handbrake may be of any efficient design, but must provide a total braking force applied to brake shoes not less than the total force applied to the brake shoes by the brake cylinders at 50 pounds per square inch.

(2) *Dimensions.* (i) The brake wheel may be deep or shallow, of malleable iron, wrought iron, steel, or other material of equivalent strength.

(ii) Overall diameter of brake wheel nominally twenty-two (22) inches.

(iii) Depth of brake wheel hub shall be two and five-eighths ($2^5/_8$) inches with square taper shaft fit, taper two (2) inches in twelve (12) inches with small end of taper fit seven-eighths ($^7/_8$) inches.

(iv) Brake wheel and drum shall be arranged so that both will revolve when applying and gradually releasing the handbrake. Handbrake shall be provided with means to prevent application of the brake by winding in a counterclockwise direction.

(v) Brake shaft shall be arranged with a square fit at its outer end to secure the handbrake wheel; said square fit shall be not less than seven-eighths (7/8) of an inch square. Square-fit taper: Nominally two (2) in twelve (12) inches (see Plate A).

(vi) All chains shall be not less than nine-sixteenths (9/16) inch BBB coil chain.

(vii) All handbrake rods shall be not less than three-fourths (3/4) inch diameter.

(3) *Location.* (i) The handbrake shall be so located that it can be safely operated from horizontal end platform while car is in motion.

(ii) The brake shaft shall be located on end of car, to the left of and not less than seventeen (17) nor more than twenty-two (22) inches from center and not less than twenty-six (26) nor more than forty (40) inches above top of end-platform tread.

(4) *Manner of application.* (i) Brake wheel shall be held in position on brake shaft by a nut on a threaded extended end of brake shaft; said thread portion shall be not less than three-fourths (3/4) of an inch in diameter; said nut shall be secured by riveting over or by the use of a locknut or suitable cotter.

(ii) Outside edge of brake wheel shall be not less than four (4) inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill.

(iii) Handbrake housing shall be securely fastened to car.

(b) *End platforms* – (1) *Number.* Two (2).

(2) *Dimensions.* Width not less than eight (8) inches; length, not less than sixty (60) inches.

(3) *Location.* One (1) centered on each end of car between inner ends of handholds not more than eight (8) inches above top of center sill.

(4) *Manner of application.* (i) Each end platform shall be securely supported by not less than three (3) metal braces having a minimum cross sectional area of three-eighths (3/8) by one and one-half (1 1/2) inches or equivalent, which shall be securely fastened to body of car with not less than one-half (1/2) inch bolts or rivets.

(ii) Where conventional draft gear or cushioning device having longitudinal travel less than six (6) inches is used the outside edge of each end platform shall be not less than twelve (12) inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against buffer block. Where cushioning device having longitudinal travel six (6) inches or more is used the outside edge of each end platform shall be not less than six (6) inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with end sill and cushioning device at full buff. End platform shall be made of wood or of material which provides the same as or a greater degree of safety than wood of 1 1/8 inches thickness. When made of material other than wood the tread surface shall be of anti-skid design and constructed with sufficient open space to permit the elimination of snow and ice from the tread surface.

(c) *Sill steps* – (1) *Number.* Four (4).

(2) *Dimensions.* Minimum cross-sectional area one-half (1/2) by one and one-half (1 1/2) inches, or equivalent, of wrought iron, steel, or other material of equivalent strength. Minimum length of tread, ten (10), preferably twelve (12) inches. Minimum clear depth, eight (8) inches.

(3) *Location.* (i) One (1) near each end of each side car, so that there shall be no more than eighteen (18) inches from end of car to center of tread of sill step.

(ii) Outside edge of tread of step shall be not more than four (4) inches inside of face of side of car, preferably flush with side of car.

(iii) Tread shall be not more than twenty-four (24), preferably not more than twenty-two (22) inches above the top of rail.

(4) *Manner of application.* (i) Sill steps exceeding twenty-one (21) inches in depth shall have an additional tread.

(ii) Sill steps shall be securely fastened with not less than one-half (1/2) inch bolts with nuts outside (when possible) and riveted over, or with not less than one-half (1/2) inch rivets.

(d) *End ladder (appliances) clearance.* No part of car above end sills within thirty (30) inches from side of car, except buffer block, brake shaft, brake wheel, end platform, horizontal end handholds, or uncoupling lever shall extend to within twelve (12) inches of a vertical plane parallel with end of car and passing through the inside face of knuckle, when closed with the coupler horn against the buffer block or end sill and cushioning device

(if used) at full buff, and no other part of end of car or fixtures on same above end sill, other than exceptions herein noted, shall extend beyond outer face of buffer block.

(e) *Side handholds* – (1) *Number.* Sixteen (16).

(2) *Dimensions.* Minimum diameter, five-eighths (5/8) of an inch, wrought iron, steel, or other material of equivalent strength. Minimum clear length, sixteen (16) inches, preferably twenty-four (24) inches. Minimum clearance, two (2), preferably two and one-half (2 1/2) inches.

(3) *Location.* Horizontal; four (4) near each end and on each side of car spaced not more than nineteen (19) inches apart and with the bottom handhold located not more than twenty-one (21) inches from top tread of sill step, and top handhold shall coincide in height with top end handhold, a variation of two (2) inches being allowed. Spacing of side handholds shall be uniform within a limit of two (2) inches from top handhold to bottom handhold. Clearance of outer ends of handholds shall be not more than eight (8) inches from end of car.

(4) *Manner of application.* Side handholds shall be securely fastened with not less than one-half (1/2) inch bolts with nuts outside (when possible) and riveted over, or with not less than one-half (1/2) inch rivets. Each bottom handhold shall have foot guard or upward projection not less than two (2) inches in height near inside end.

(f) *End handholds* – (1) *Number.* Sixteen (16).

(2) *Dimensions.* (i) Minimum diameter, five-eighths (5/8) of an inch, wrought iron, steel, or other material of equivalent strength.

(ii) Minimum clear length, sixteen (16) inches, preferably twenty-four (24) inches.

(iii) Minimum clearance, two (2) preferably two and one-half (2 1/2) inches.

(3) *Location.* Horizontal: Four (4) near each side and on each end of car spaced not more than nineteen (19) inches apart and with the bottom handhold located not more than twenty-one (21) inches from top tread of sill step, and top handhold shall coincide in height with end platform handholds, a variation of two (2) inches being allowed. Clearance of outer ends of handholds shall be not more than eight (8) inches from side of car.

(4) *Manner of application.* End handholds shall be securely fastened with not less than one-half (1/2) inch bolts with nuts outside (when possible) and riveted over, or with not less than one-half (1/2) inch rivets. Each bottom handhold shall have foot guard or upward projection not less than two (2) inches in height near inside end.

(g) *Horizontal end-platform handholds* – (1) *Number.* Two (2).

(2) *Dimensions.* (i) Minimum diameter, five-eighths (5/8) of an inch, wrought iron, steel, or other material of equivalent strength.

(ii) Minimum clearance, two (2) preferably two and one-half (2 1/2) inches.

(iii) Minimum clear length sixty (60) inches. When security of attachment requires, an extra supporting leg may be applied near center of clear length.

(3) *Location.* One (1) on each end of car above end platform. Outer legs shall be not more than six (6) inches from inner legs of top end handholds. Height above tread of end platform: Not less than forty-eight (48) nor more than sixty (60) inches.

(4) *Manner of application.* End-platform handholds shall be securely fastened with not less than one-half (1/2) inch bolts with nuts outside (when possible) and riveted over, or with not less than one-half (1/2) inch rivets.

(h) *Uncoupling levers* – (1) *Number.* Two (2).

(2) *Dimensions.* (i) Handles of uncoupling levers, except those shown on Plate B or of similar designs, shall be not more than six (6) inches from side of car.

(ii) Uncoupling levers of design shown on Plate B and of similar designs shall conform to the following prescribed limits:

(*a*) Handles shall be not more than twelve (12), preferably nine (9) inches from sides of car. Center lift arms shall be not less than seven (7) inches long.

(*b*) Center of eye at end of center lift arm shall be not more than three and one-half (3 1/2) inches beyond center of eye of uncoupling pin of coupler when horn of coupler is against the buffer block or end sill (see Plate B).

(*c*) End of handles shall extend not less than four (4) inches below bottom of end sill or shall be so constructed as to give a minimum clearance of two (2) inches around handle. Minimum drop of handles shall be twelve (12) inches; maximum, fifteen (15) inches overall (see Plate B).

(iii) Handles of uncoupling levers of the "rocking" or "push-down" type shall be not less than eighteen (18) inches from top of rail when lockblock has released knuckle, and a suitable stop shall be provided to prevent inside arm from flying up in case of breakage.

(3) *Location.* One (1) on each end of car. When single lever is used, it shall be placed on left side of end of car.

(i) *Existing box and other house cars without roof hatches.* (1) Box and other house cars without roof hatches built on or before April 1, 1966, or under construction prior thereto and placed in service before October 1, 1966, shall be deemed equipped as nearly as possible within the intent of §231.1 and of this section when:

(i) The running board, roof handholds over side and end ladders at "A" end of car and ladder treads above the fourth tread from bottom of side and end ladder at "A" end are removed;

(ii) One (1) horizontal end-platform handhold is applied on each end of car as specified in this section except the right hand end shall be not more than eight (8) inches from side of car, or where car end contour makes impractical the use of a single continuous end handhold, there is applied the equivalent consisting of two (2) handholds, the center handhold to be a minimum of thirty (30) inches in clear length and the handhold to the right to be a minimum of nineteen (19) inches in clear length and to extend to within eight (8) inches of the right side of the car, such handholds to be not more than twelve (12) inches apart; and

(iii) With handbrake operated near roof of car: a brake step shall be provided as specified in §231.1 and lettering one and one-half (1½) inches high shall be painted on a yellow background on side sill near "B" end of car with a three-fourths (¾) inch black border containing the words "Keep Off Roof – No Running Board," or with handbrake operated from approximate level of top of end sill: roof handholds and side and end ladder treads above the fourth tread from the bottom of ladders at "B" end of car shall be removed and a brake step as specified by §231.1 shall be used with top of tread surface being level with or not more than four (4) inches below adjacent end handhold.

(2) Paragraph (i)(1)(ii) of this section shall not apply to cars equipped with end platforms and end platform handholds.

(j) *Painting and marking.* Box and other house cars with roofs 16 feet and 10 inches or more above top of rail shall be painted and marked as follows:

(1) That portion of each end of the car which is more than fifteen (15) feet above top of rail shall be painted with contrasting reflectorized paint and bear the words "excess height car" in lettering not less than three (3) inches high; and

(2) On each side sill near end corner there shall be painted or otherwise displayed a yellow rectangular area with a three-fourths (¾) inch black border containing the words "this car excess height" in lettering not less than one and one-half (1½) inches high.

§231.28 Box and other house cars with roof hatches built or placed in service after October 1, 1966.

The specifications of §231.27 shall apply except as to the following:

(a) *Running boards.* Same as specified in §231.1, except: the end of longitudinal running board shall be not less than six (6) inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against buffer block or end sill.

(b) *Ladders* – (1) *Number.* Two (2).

(2) *Dimensions.* (i) Minimum clear length of tread: Sixteen (16) inches.

(ii) Maximum spacing between treads nineteen (19) inches.

(3) *Location.* One (1) on each end of car not more than eight (8) inches from left-hand side.

(4) *Manner of application.* Same as specified in §231.1.

(c) *Roof handholds* – (1) *Number.* Two (2), one (1) over each ladder.

(2) *Dimensions.* Same as specified in §231.1.

(3) *Location.* On roof of car. One (1) parallel to treads of each ladder, not less than eight (8) nor more than fifteen (15) inches from edge of roof, except on refrigerator cars where ice hatches prevent, when location may be nearer edge of roof.

(4) *Manner of application.* Same as specified in §231.1.

(d) *End handholds.* (Treads of end ladders are end handholds.) Same as specified for §231.27.

(e) *Existing box and other house cars with roof hatches.* Box and other house cars with roof hatches built on or before April 1, 1966, or under construction prior thereto and placed in service before October 1, 1966, shall be deemed equipped as nearly as possible within the intent of §231.1 and of this section when: Equipped as specified in §231.1, except (1) the side ladder treads above the fourth tread from bottom of side ladder near "A" end of car and roof handhold over the side ladder near "A" end shall be removed; (2) and (1) end platform handhold shall be provided on each end of car as specified in §231.27(i); and when handbrake is operated near roof of car a brake step shall be provided as specified by §231.1 or when handbrake is operated from approximate level of top of end sill the roof handhold over side ladder near "B" end and treads above the fourth tread from bottom of side ladder near "B" end shall be removed and a brake step as specified in §231.1 shall be used with top of tread surface level with or not more than four (4) inches below adjacent end handhold.